

1988 Minnesota Inventory of COMPUTER MAPPING SYSTEMS:

Software, Applications, Graphic Data Files and Expertise



REGIONAL MAPPING CONSORTIUM
Metropolitan Council Data Center

**MINNESOTA INVENTORY
OF
COMPUTER MAPPING SYSTEMS:
SOFTWARE,
GRAPHIC DATA FILES, &
EXPERTISE**



REGIONAL MAPPING CONSORTIUM

c/o Metropolitan Council Data Center
Suite 300 Metro Square Building
St. Paul, Minnesota 55101
(612) 291-6365



I. RESPONDENT INFORMATION

Organization _____

Address _____

Phone (____) _____

Q-1 Please circle the number that best identifies your organization.

1 GOVERNMENT

2 PRIVATE

3 ACADEMIC

4 OTHER (specify) _____

II. INITIAL SCREENING QUESTIONS

Q-2 Do you currently use a computer mapping system? (circle all appropriate numbers)

1 YES, have in-house system

2 YES, use off-site system

3 NO

Q-3 Are you seriously considering acquiring a mapping system? (circle all appropriate numbers)

1 YES, needs assessment completed or underway

2 YES, vendor study completed or underway

3 NO, but serious efforts will begin in a year or two

4 NO, but interested in topic

5 NO, not interested

IF you answered only "NO" to Q-2 and Q-3, stop and mail in survey. Others should continue.

Q-4 Should we mail you a copy of the directory when completed?

- 1 YES, please mail a copy
- 2 NO, thanks

Q-5 If you answered "YES" to Q-2 or Q-3, do you have any materials or brief assistance you might offer? (circle as many number as appropriate)

- 1 YES, some written materials on system capabilities, RFP, analysis of needs, etc.
- 2 YES, we can answer brief phone questions
- 3 YES, demonstration is possible
- 4 NO, sorry

Q-6 Please identify the main contact person in your organization.

name _____
title _____
dept _____
address if different from page 1.

STOP! You may be done and can mail in this survey. The rest of the survey is only for those who have an existing system. If you answered "YES" on Q-2, please continue.

III. COMPUTER MAPPING SYSTEMS

Our organizing unit is "software systems" (not individual programs). If you have more than one system, please complete one survey instrument for each. For additional instruments call the Metro Council's Data Center at 291-6365.

Q-7 Name your computer mapping system and its supplier.

system _____
by _____
of city/state _____

Q-8 Type of System. Circle one number in each column to indicate the primary and secondary uses of your system.

Primary Secondary

- | | | |
|---|---|--|
| 1 | 1 | CARTOGRAPHY/MAPPING |
| 2 | 2 | CADD/ENGINEERING |
| 3 | 3 | ANALYTIC/GEOGRAPHIC INFORMATION SYSTEM |
| 4 | 4 | OTHER (Specify) _____ |

Q-9 System Cost. In rough terms, what does the software component of your computer mapping system cost?

\$ _____

Q-10 Data Structure. Is this a raster or vector type system? (circle one number)

- 1 RASTER/GRID
- 2 VECTOR/POLYGON

Q-11 Purchase Rationale. What were the major reasons for purchasing this software system? (circle all appropriate numbers)

- 1 THE SYSTEM FIT OUR NEEDS
- 2 COST
- 3 THE SYSTEM RAN ON HARDWARE WE ALREADY OWNED
- 4 COMPATIBILITY WITH SISTER ORGANIZATIONS
- 5 AVAILABILITY OF COMPATIBLE DATA FILES AND/OR GRAPHIC (OR BOUNDARY FILES)
- 6 OTHER (specify) _____

Q-12 Hardware. What hardware do you use in running this system?

computer (make and model) _____

peripherals (list types only, e.g., electrostatic plotter)

IV. SYSTEM USES

- Q-13 Applications. To what general applications do you use this system? Try to summarize two to three types of applications. For each type of application give one or two examples. For the State Planning Agency one application might be 'Land Capability Analysis' where an example might be mapping prime agricultural lands.

Application 1 _____

examples _____

Application 2 _____

examples _____

Application 3 _____

examples _____

- Q-14 Future Applications. Name future types of applications you are considering, e.g., network analysis.

Application 1 _____

Application 2 _____

- Q-15 Outside Access. Do you encourage system access by outside users? (circle one)

1 YES, encourage

2 YES, but limits apply

3 NO ———> SKIP TO Q-17

- Q-16 If YES, what restrictions apply on access? (circle all numbers that apply)

1 OUTSIDE USERS MUST PAY FULL COSTS

2 OUR STAFF TIME TO PROVIDE ASSISTANCE IS VERY LIMITED

3 THE EQUIPMENT IS BUSY MOST OF THE TIME

4 VERY DIFFICULT TO ADD NEW DATA FILES

5 OTHER (specify) _____

6 NONE

V. DATA FILES: GRAPHIC AND ATTRIBUTE

What is the difference between graphic and attribute? A graphic file might be census tract boundaries; an attribute file might contain such 1980 Census information such as population and per capita increase for each census tract.

Q-17 Graphic Files. Please list the graphic files types you have in-house along with the information requested about each. Remember this is for one software system.

	<u>File Type</u> (e.g. soil boundary trunk highways)	<u>Spatial</u> <u>Resolution</u> (e.g. ± 10 ft)	<u>Geographic</u> <u>Coverage</u> (e.g. (3 counties)	<u>Update</u> <u>Frequency</u>
file 1	_____	_____	_____	_____
file 2	_____	_____	_____	_____
file 3	_____	_____	_____	_____
file 4	_____	_____	_____	_____
file 5	_____	_____	_____	_____
file 6	_____	_____	_____	_____
file 7	_____	_____	_____	_____
file 8	_____	_____	_____	_____

Use additional sheets if necessary.

- Q-18 Attribute Files. See definition above. We are not interested in detailed file contents. In the example given above, "1980 Census data" would be an adequate file label.

	<u>Unit Record</u> <u>(e.g. parcel)</u>	<u>Geographic</u> <u>Coverage (e.g.</u> <u>county-wide)</u>	<u>Update</u> <u>Frequency (e.g.</u> <u>every 4 yrs)</u>
file 1 _____	_____	_____	_____
file 2 _____	_____	_____	_____
file 3 _____	_____	_____	_____
file 4 _____	_____	_____	_____
file 5 _____	_____	_____	_____
file 6 _____	_____	_____	_____
file 7 _____	_____	_____	_____
file 8 _____	_____	_____	_____

Use additional sheets if necessary.

VI. GRAPHIC DATA TRANSLATION

- Q-19 Translation. Do you know of a software package that can translate your graphic files to or from a different software system? (circle all numbers that apply)

- 1 NO —————→ SKIP TO Q-21
- 2 YES, we have one or more translation packages
- 3 YES, we know of a translation package

- Q-20 With which systems can you translate? (please name and circle direction)

System _____ to/from/both

System _____ to/from/both

VII. FINISH

Q-21 Anything Else. If there are any comments you would like to add about your system (or about this survey) please make them in the space below.



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Minnesota Inventory
of
Computer Mapping Systems:

Software, Applications,
Graphic Data Files
&
Expertise

June 1988

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TABLE OF CONTENTS

	<u>Page</u>
Introduction	v
Using This Directory	vii
Recommendations for Future Inventories	ix
System Descriptions	1-83
Index of Users	85
Index of Systems	89
Index of Needs Assessments and Vendor Studies	93
Appendix: Survey Form Used to Collect System Descriptions	95



INTRODUCTION

This report is a directory of the computer mapping systems being used in Minnesota in early 1988. It is intended to go beyond listing who has what software to include information on current and future applications and on existing data files. The purpose is to present information that will encourage networking among people with similar interests and needs.

This directory is the first of its kind. We know of no similar effort in Minnesota or in any other state or country of the world. The most notable finding is the large number of mapping systems operating across the state. We identified forty-one different systems operating in forty-five different organizations for a total of eighty-nine different installations. These figures are five to fifteen times higher than we estimated. And we probably missed many more systems in this first inventory.

It is obvious that the number of organizations using this technology is exploding. Five years ago, there were only a few large systems. Now there are dozens and dozens. This explosion is occurring in response to a need. One county planner, with his own micro-system, said that he now feels liberated. He has always wanted to model development and environmental issues; now he can do these things at his desk. Availability of software and low cost systems are the answers to many prayers.

The directory was compiled for a number of reasons. The Regional Mapping Consortium was interested in knowing the number and types of systems in existence in order to set its own agenda. One specific interest of the consortium is identifying available software for interchanging data between systems, and that question was asked of all respondents. Most critically, we wanted a directory to promote networking among people with similar interests. Therefore, we went beyond inventorying systems and asked people about their applications and about their computerized data. Names, addresses, and phone numbers of contact people are provided to facilitate this networking. One important part of networking might be the possibility of sharing data. We know that data collection and computerization is the most costly aspect of computer mapping, more expensive than the software and hardware costs combined.

The directory was compiled from a mail survey. The survey was mailed to all known computer mapping system users in the state. The original list was compiled by the Steering and Inventory Committees of the Regional Mapping Consortium and augmented by a listing of mapping users identified in a questionnaire distributed at a consortium computer mapping seminar on March 13, 1987. Notice of the survey was posted in the consortium's newsletter, inviting participation. The cover letter to all participants listed recipients and asked each to identify others. The survey was completed during the winter of 1988. Dozens of phone calls were required to obtain responses from dilatory respondents or to clarify responses.

Individual readers of this report will find various uses of its contents. Many will want to find future collaborators. A few will attempt to get an

overview of the "state of the art." For this latter group one possible taxonomy is presented here:

1. Core systems. Big systems designed for major tasks and many users. Systems at Hennepin County, the State Planning Agency, and MnDOT are examples.
2. Special purpose systems. Like core systems, but narrower in focus.
3. Distributed systems. Mostly running on microcomputers. Like core systems, but individual offices are meeting their needs in-house.
4. Vendor support systems. Systems used by private sector firms to support their primary activity.
5. Vendor custom systems. Systems acquired by vendors allowing them to deliver computer files compatible with customer systems.
6. System providers. Software for sale.
7. AutoCAD for electric coops.
8. Teaching tools. Many systems maintained by academic institutions.
9. Image processing systems. Systems designed to process data from satellites. Always a separate category.
10. Starters. Organizations who are actively looking to become users of computer mapping technology.

USING THIS DIRECTORY

Each computer mapping installation is listed on a separate page. The pages are ordered alphabetically by user. An Index of Users is presented at the end of this directory (page 85). A second Index of Systems is provided identifying all the known users of a given piece of software (page 89).

The individual sheets are brief summaries of the eight-page questionnaire. The summaries were all written by Will Craig, who accepts full responsibility for introducing any errors. The survey itself is reproduced in the appendix. Confusion in understanding the contents of this directory can be reduced by referring to this data collection tool.

The individual sheets tend to follow the structure of the questionnaire itself. For example, the user and the name of the system at the top of the sheet come from pages 1-2 of the questionnaire, software specifications come from page 3. A number of shorthand labels were developed.

1. **ASSISTANCE.** Here are listed the answers to question Q-5 on whether respondents have any written materials or might be willing to offer assistance to others. Responses listed are brief summaries of the response items in Q-5.
2. **JUSTIFICATION.** Summary of responses to Q-11, why people purchased that piece of software. "Matched hardware" is shorthand for "The system ran on hardware we already owned," etc. Where organizations listed both that reason and compatibility with sister organizations, the summary sheet lists only "compatibility" to cover the two types.
3. **OUTSIDE ACCESS.** Based on Q-15 and Q-16. The single sheet lists "resources limited" when the respondent mentioned both limited staff time and limited equipment time as restrictions on access.

Two important items are omitted from the summary sheets. A small number of respondents indicated that they had either a needs assessment or a vendor study. This could be important information to share. Those organizations and the systems they currently operate are listed in a third index, also found at the end of this directory (page 93). The survey did not differentiate between those whose work was completed and those whose efforts were underway.

Some of the information presented in this directory may be inaccurate. To the extent that these inaccuracies arose from the survey instrument itself, suggestions are made on the next few pages on how to correct future inventories. Readers interested in knowing the weaknesses of the current directory should read on.

RECOMMENDATIONS FOR FUTURE INVENTORIES

This directory is a beginning. It is probably incomplete even now and will be horribly out-of-date in a year or two. Moreover, we made mistakes and omissions in asking questions that could be rectified in future surveys. We strongly suggest that this directory be updated regularly, at least biannually, preferably annually. Below are some suggestions for those future efforts.

Existing respondents should be sent copies of their listings and asked to make corrections. The context provided by this published directory may cause them to make additional changes in the way they present their work.

New systems need to be added, both because they were missed in the present inventory and because new systems will come into existence. For this group too, the context provided by this directory will make it easier for them to complete a survey.

The survey itself was confusing in its questions about organization type (Q-1) and outside access (Q-15 and Q-16). Software vendors and consultants selling services had no appropriate way to respond. Future surveys might ask respondents "which statement best describes the use of your system":

- in-house system to serve our own needs
- system to create data files for clients
- software for sale to others
- service bureau with access available to outside users
- teaching
- research
- etc.

Another source of confusion surrounded the two different data types, graphic and attribute. Some of this confusion might dissolve as respondents are able to see this report. A phrase "linked attribute" or an example might help clarify the distinction. An example was, in fact, given at the beginning of section V, but should have been repeated within the instructions for both Q-17 and Q-18.

Beyond fixing problems with this current survey, the next survey could get into important new areas. One suggestion is to ask people about the critical technical and organizational problems they face which prevent them from making maximum use of this technology. The answers would be of importance to vendors, consultants, and researchers looking to make the technology more useful.

This effort has been an important first step, but the universe of the state of Minnesota is too small. It is recommended that other states repeat this effort for systems within their borders. It would be difficult, but very useful, to replicate this study nationally. The difficulty arises from trying to identify potential respondents and cajole them into responding. The results would be very useful, especially at this point, in mid-1988, when the

National Science Foundation is about to launch a National Center for Geographic Information and Analysis. Unless researchers at NCGIA can know what is the current state-of-the-art in the use of the technology, the efforts cannot be directed to solve important problems. A national survey could be very important for setting the research agenda for this national center and for others doing research and development in this field, especially if we could identify the critical problems users now face.

USER: Agralite Cooperative
East Highway 12
Box 228
Benson, MN 56215

SYSTEM: AutoCAD Ver. 9.0
Autodesk
Sausalito, CA

CONTACT: Kory Johnson, Engineering (612) 843-4150

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$2,350

JUSTIFICATION: System fits needs, cost

PRIMARY USE: Cartography/mapping

SECONDARY USE: 1) CADD/engineering
2) Analytic/GIS

HARDWARE: Televideo Telecast 286, plotter, digitizer

CURRENT APPLICATIONS: 1) Distribution mapping: e.g., electrical distribution by township, detailed underground distribution maps
2) Location maps: e.g., maps showing location numbers for local emergency services
3) Technical drawings: e.g., drawings for presentations, construction drawings

FUTURE APPLICATIONS: 1) Combine township maps into system map
2) Tie in existing data bases

OUTSIDE ACCESS: Yes, but staff time limited

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Aerial lines	+/-100 feet	service area*	continuous
2) Underground lines	+/-100 feet	service area*	continuous
3) Line equipment	+/-100 feet	service area*	continuous
4) Consumer location	+/-100 feet	service area*	continuous
5) Roads	+/-100 feet	service area*	continuous
6) Rivers	+/-100 feet	service area*	continuous
7) Underground enclosures	+/-100 feet	service area*	continuous
8) Transmission lines	+/-100 feet	service area*	continuous

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Several	pieces of equipment	service area	continuous

TRANSLATION PACKAGES: --

* Most of Swift and Stevens counties, parts of Big Stone County.

USER: Arrowhead Management Services Inc.
110 Jersey Avenue N.
Golden Valley, MN 55427

SYSTEM: AutoCAD
Autodesk
Sausalito, CA

CONTACT: David Peterson, President (612) 593-0520

ASSISTANCE: Written material, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$2,500

JUSTIFICATION: System fits needs

PRIMARY USE: CADD/engineering

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC AT, plotter, printer, video capture

CURRENT APPLICATIONS: 1) 2-D maps: e.g., utility facility
2) Architecture: e.g., floor plans, elevations
3) CNC files: e.g., digitize outlines of stamping dies

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: Yes, encourage access; users pay full costs

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Street/highway layout	+/-10-100 feet	2 cities, 1 county	varies
2) Office layouts	+/-2 inches	several bldgs.	irregular

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1) Utility transformers	--	--	--

TRANSLATION PACKAGES: --

USER: Barr Engineering Co.
7803 Glenroy Road
Minneapolis, MN 55435

SYSTEM: DIGICAD-INFOCAD
Digital Matrix
Services Inc.
Miami, FL
(also use AutoCAD)

CONTACT: James A. Smith, P.E. (612) 830-0555

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$2,500-7,500

JUSTIFICATION: System fits needs, cost, matched hardware, has unique capabilities

PRIMARY USE: Analytic/GIS

SECONDARY USE: CADD/engineering

HARDWARE: PC 80386

CURRENT APPLICATIONS: 1) Infrastructure management
2) Facilities management
3) General CAD

FUTURE APPLICATIONS: 1) Site planning and management

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) AutoCAD to and from DIGICAD-INFOCAD
2) Integraph to and from DIGICAD-INFOCAD

USER: Blue Earth County
Mankato, MN 56001

SYSTEM: Intergraph
Intergraph Corp.
Huntsville, AL

CONTACT: Bill Maher, Commissioner or Dave Twa, Administrator
(507) 625-3031

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$100,000

JUSTIFICATION: System fits needs, availability of data

PRIMARY USE: Cartography/mapping

SECONDARY USE: 1) CADD/engineering
2) Analytic/GIS

HARDWARE: VAX, Intergraph work stations

CURRENT APPLICATIONS: 1) Taxing: e.g., land boundary designation

FUTURE APPLICATIONS: 1) Engineering

OUTSIDE ACCESS: Yes, encourage; users pay full cost

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) in progress			

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1) in progress			

TRANSLATION PACKAGES: IBM to Borroughs to Intergraph

USER: Burnsville, City of
1313 E. Highway 13
Burnsville, MN 55337

SYSTEM: none (needs assess-
ment completed or
underway)

CONTACT: Jim Martenson, Engineering (612) 890-4100

ASSISTANCE: answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE:

PRICE:

JUSTIFICATION:

PRIMARY USE:

SECONDARY USE:

HARDWARE:

CURRENT APPLICATIONS: 1)
2)
3)

FUTURE APPLICATIONS: 1)
2)
3)

OUTSIDE ACCESS:

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1)			
2)			
3)			
4)			
5)			
6)			

TRANSLATION PACKAGES:

USER: Carver County Planning
600 E. 4th Street, Box 16
Chaska, MN 55315

SYSTEM:

EPPL7
State Planning
Agency
St. Paul, MN

CONTACT: Dave Drealan (612) 448-3435

ASSISTANCE: --

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$400

JUSTIFICATION: System fits needs, availability of data

PRIMARY USE: Analytic/GIS

SECONDARY USE: --

HARDWARE: Compaq 286, printer, digitizer

CURRENT APPLICATIONS: 1) Comprehensive plan studies: e.g., land suitability
for development

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: Yes, access policies not yet established

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) See State Planning Agency			

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Carver County Planning
600 E. 4th Street, Box 16
Chaska, MN 55315

SYSTEM: Soil Survey
Information System
Soil Sciences
Department/U of M
St. Paul, MN

CONTACT: Dave Drealan (612) 448-3435

ASSISTANCE: --

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: --

JUSTIFICATION: System fits needs

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: Compaq 286, printer, digitizer

CURRENT APPLICATIONS: 1) Planning analysis: e.g., mapping and analyzing land use and agricultural capability

FUTURE APPLICATIONS: 1) Appraising farmland-based production capability (will require ownership map)

OUTSIDE ACCESS: Yes, access policies not yet established

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Soil boundary	30 feet	county	--
2) Land use	30 feet	county	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Soil characteristics	soil polygon	county	--

TRANSLATION PACKAGES: --

USER: Center for Urban and Regional Affairs
University of Minnesota
Minneapolis, MN 55455

SYSTEM: Atlas * Graphics
Strategic Locations
Planning
San Jose, CA

CONTACT: Will Craig (612) 625-1551

ASSISTANCE: Answering questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/raster

PRICE: \$449

JUSTIFICATION: System fits needs, cost, matched hardware

PRIMARY USE: Cartography/mapping

SECONDARY USE: --

HARDWARE: IBM-PC AT, laser printer

CURRENT APPLICATIONS: 1) Economic/demographic analysis: e.g., eight-state
atlas
2) Incidence mapping: e.g., farm acres owned by
insurance companies

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) U.S. states	+/-10 miles	U.S.	--
2) U.S. counties	+/-1 mile	U.S.	--
3) School district	+/-1 mile	Minnesota	--
4) City/township	+/- .5 mile	Minnesota	--
5) Five-digit zip codes	+/- .5 mile	Minnesota	--
6) Community/neighborhood	+/-100 feet	Mpls./St. Paul	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) County City Data Book	state	U.S.	10 years
2) 1980 Census	county	eight states	10 years
3) School districts	district	Minnesota	--

TRANSLATION PACKAGES: --

USER: Cook County Assessor
Courthouse
Grand Marais, MN 55604

SYSTEM: none (vendor study
completed or
underway)

CONTACT: Loretta Bloomquist (218) 387-2282

ASSISTANCE: Answer questions, demonstrate (CAD on trial)

SOFTWARE SPECIFICATIONS

DATA STRUCTURE:

PRICE:

JUSTIFICATION:

PRIMARY USE:

SECONDARY USE:

HARDWARE:

CURRENT APPLICATIONS: 1)
2)
3)

FUTURE APPLICATIONS: 1)
2)
3)

OUTSIDE ACCESS:

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1)			
2)			
3)			
4)			
5)			
6)			

TRANSLATION PACKAGES:

USER: Control Data Corporation
2300 Berkshire Lane
Plymouth, MN 55441

SYSTEM: CDC MAP
Control Data Corp.
Plymouth, MN

CONTACT: Dick Stoltz, Energy Management Systems (612) 553-4356

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$30,000

JUSTIFICATION: Response to market needs

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: CDC Cyber 910

CURRENT APPLICATIONS: 1) Automated mapping/facilities mapping: e.g., process
and tracking facilities
2) GIS: e.g., spatial data analysis

FUTURE APPLICATIONS: 1) Utility network analysis

OUTSIDE ACCESS: Yes, for system evaluations

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) CDC ICEM/DDN to OptiGraphics Scanners to CDC MAP
2) AutoCAD to CDCMAP
3) Intergraph to CDCMAP

USER: Cray Research
1333 Northland Drive
Mendota Heights, MN 55120

SYSTEM: CSadie
Cray Research
Mendota Heights, MN

CONTACT: William Samayoa, Applications (612) 681-3651

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$200

JUSTIFICATION: Cost, matched hardware, availability of data, handles large problems quickly

PRIMARY USE: Image processing

SECONDARY USE: Analytic/GIS

HARDWARE: Cray X-MP or Cray 2, various distributed processing graphic stations

CURRENT APPLICATIONS: 1) Landsat TM (Thematic Mapper) remote sensing: e.g., image enhancement, tassal cap transformation from six bands
2) SPOT remote sensing: e.g., principal components, image wrapping
3) Area clustering with AI: e.g., LISP and Fortran processing to group clusters

FUTURE APPLICATIONS: 1) Multi-source, multi-temporal remote sensing
2) AI (Artificial Intelligence) processing

OUTSIDE ACCESS: Yes, benchmark evaluations only. Interested users should consider a Cray at the Super Computer Institute.

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) TM	30 meters	Central MN, KS	9/83
2) SPOT	20 meters	Algeria	1986

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) TM CCT to raw raster
2) SPOT RGB to raw raster

USER: Cray Research
1333 Northland Drive
Mendota Heights, MN 55120

SYSTEM: MOVIE.BYU
Brigham Young Univ.
Provo, UT

CONTACT: William Samayoa, Applications (612) 681-3651

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$3,200

JUSTIFICATION: Cost, matched hardware, compatibility with others

PRIMARY USE: CADD/engineering

SECONDARY USE: Cartography/mapping

HARDWARE: Cray XMP, VAX/785, various distributed processing graphic stations

CURRENT APPLICATIONS: 1) Pollution cloud dispersion: e.g., Chernobyl cloud dispersion movie
2) Movie generation of mechanical systems
3) CAD/CAM display: e.g., car body crash sequences

FUTURE APPLICATIONS: 1) Weather data display

OUTSIDE ACCESS: Yes, for benchmarks only. Interested users should consider a Cray at the Super Computer Institute.

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Chernobyl cloud dispersion	110 km ² x 11 levels	northern hemisphere	6 hours x 20 days

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) MOVIE.BYU to PATRAN
2) MOVIE.BYU to and from MSC/NASTRAN

USER: Dakota County
7300 W. 147th St., Suite 503
Apple Valley, MN

SYSTEM: none
(vendor study
completed or
underway)

CONTACT: Allen Moe, Planning (612) 431-1151

ASSISTANCE: Written materials

SOFTWARE SPECIFICATIONS

DATA STRUCTURE:

PRICE:

JUSTIFICATION:

PRIMARY USE:

SECONDARY USE:

HARDWARE:

CURRENT APPLICATIONS: 1)
2)
3)

FUTURE APPLICATIONS: 1)
2)
3)

OUTSIDE ACCESS:

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1)			
2)			
3)			
4)			
5)			
6)			

TRANSLATION PACKAGES:

USER: Duluth, City of
Rm 211 City Hall
Duluth, MN 55802

SYSTEM: ULTIMAP
ULTIMAP Corp.
Bloomington, MN

CONTACT: Sanders Sweeney, Public Works (218) 723-3315

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$41,000

JUSTIFICATION: System fits needs

PRIMARY USE: 1) Cartography/mapping
2) CADD/engineering
3) Analytic/GIS

SECONDARY USE: --

HARDWARE: Apollo work stations, plotter

CURRENT APPLICATIONS: 1) Road design: e.g., numerous small to intermediate size projects
2) Base map (pictorial): e.g., planning studies, business development
3) Thematic maps: e.g., census trend analysis, fire incidence map

FUTURE APPLICATIONS: 1) Parcel map
2) Utility mapping on cadastral base
3) Traffic engineering

OUTSIDE ACCESS: Yes, but equipment busy

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Census tracts	--	2 county	10 years
2) GBF/DIME	--	urbanized area	10 years
3) Census block groups	--	urbanized area	10 years
4) USGS center line	--	city	--
5) Assessor's map	--	city	annual
6) Skywalk	--	downtown	biannual

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Edwards and Kelsey, Inc.
7401 Metro Blvd., Suite 430
Minneapolis, MN 55435

SYSTEM: EKWYS
Edwards and Kelsey
Livingston, NJ

CONTACT: Jay Wetmore or Dave Rachael (612) 835-6411

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Built around Prime's Medusa polygon/vector system

PRICE: \$150,000

JUSTIFICATION: Built by Edwards and Kelsey

PRIMARY USE: CADD/engineering

SECONDARY USE: 1) Cartography/mapping
2) Analytic/GIS

HARDWARE: Prime 9955-II, plotter, digitizer, high resolution graphic work stations

CURRENT APPLICATIONS: 1) Highway design: e.g., resurfacing, vertical and horizontal alignment, contract documents
2) Bridge design: e.g., structural analysis, vertical and horizontal design, construction drawings
3) Earthwork layout and computations

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: Yes, encourage access; users pay full costs

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Base maps	--	various sites	--
2) Alignments	--	various sites	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Earthwork	values	--	--

TRANSLATION PACKAGES: 1) Prime (Medusa) to and from Intergraph
2) Prime (Medusa) to and from AutoCAD

USER: Fish and Wildlife Service, U.S.
Federal Bldg., Ft. Snelling
Twin Cities, MN 55111

SYSTEM: EPPL6
State Planning
Agency
St. Paul, MN
(plus limited work
on ARC/INFO)

CONTACT: Deborah Southworth, Refuges and Wildlife (612) 725-3570

ASSISTANCE: --

SYSTEM SPECIFICATIONS: See State Planning Agency

CURRENT APPLICATIONS: 1) Natural resource management/analysis: e.g., planning
for the Upper Mississippi River system

FUTURE APPLICATIONS: --

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Vegetation type	2.5 acres	260 miles (Miss. River)	10 years?
2) Land use	2.5 acres	260 miles (Miss. River)	10 years?
3) Land ownership	2.5 acres	260 miles (Miss. River)	irregular
4) Vegetation type	0.5 acre	30 miles (Minn. River)	10 years?
5) Land use	0.5 acre	30 miles (Minn. River)	10 years?
6) Water depth	+/-25 meters	Mississippi Pools 5,7,8	--

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1) Fish census	point	pools 5 and 7	annual

TRANSLATION PACKAGES: --

USER: Geography Department
Bemidji State University
Bemidji, MN 56601

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN
(many others*)

CONTACT: Dr. Charles G. Parson (218) 755-2805

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster, grid

PRICE: \$400

JUSTIFICATION: Matched hardware, availability of data

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC AT, printer, plotters

CURRENT APPLICATIONS: 1) Natural resource assessment: e.g., wildlife habitat
derived from satellite (TM) and GIS data
2) Water inventory: e.g. satellite (TM) data merged
with USGS quad water bodies
3) Instruction in cartography*

FUTURE APPLICATIONS: 1) Watershed modeling
2) Economic timber resource assessment

OUTSIDE ACCESS: Yes, users pay full cost, staff busy

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) State Planning Agency data	100 meters	3 counties	--
2) Thematic mapper (TM)	30 meters	2 townships	--
3) Soils	5 meters	2 townships	--
4) USGS lines	5 meters	2 townships	--
5) Forest stands	30 meters	2 townships	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Phase II inventory data	forest stand	2 townships	--

TRANSLATION PACKAGES: 1) EPPL7 to and from ARC/INFO
2) EPPL7 to and from SIS

*Various software packages used for instruction: SYMAP, ASPEX, Apple PIPS,
MICRO MAP II, MacMap (under Business Filevision)

USER: Geography Department
University of Minnesota
Minneapolis, MN 55455

SYSTEM: Atlas * Graphics
Strategic Locations
Planning
San Jose, CA

CONTACT: Phil Gersmehl, Professor (612) 625-6080
Jim Young, Research Assistant

ASSISTANCE: Written materials, answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$449

JUSTIFICATION: System fits needs, cost, matched hardware

PRIMARY USE: Cartography/mapping

SECONDARY USE: Analytic/GIS

HARDWARE: IBM-PC AT, plotter, digitizer, printer

CURRENT APPLICATIONS: 1) Student research papers
2) Choropleth mapping
3) Classroom exercises

FUTURE APPLICATIONS: 1) Preparation of publication quality maps in
cartography lab

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) U.S. states	+/-10 miles	U.S.	--
2) U.S. counties	+/-1 mile	U.S.	--
3) World regions/countries	+/-50 miles	world	--
4) Three-digit zip code	+/-5 miles	U.S.	--
5) MSAs	+/-5 miles	U.S.	--
6) Minor civil division	+/-0.5 miles	Minnesota	--
7) Five-digit zip code	+/-0.5 miles	Minnesota	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
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Sample data supplied with program

TRANSLATION PACKAGES: Atlas * Graphics to and from ASCII (attribute files
only)

USER: Geography Department
University of Minnesota
Minneapolis, MN 55455

SYSTEM: Desktop Information
Display System
(DIDS)
Sammamish Data
Systems
Bellevue, WA

CONTACT: Phil Gersmehl, Professor (612) 625-6080
Jim Young, Research Assistant

ASSISTANCE: Written materials, answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$750

JUSTIFICATION: Matched hardware, acquired for systems comparison

PRIMARY USE: Cartography/mapping

SECONDARY USE: --

HARDWARE: IBM-PC AT, plotter, digitizer, printer

CURRENT APPLICATIONS: --

FUTURE APPLICATIONS: 1) Available for student use

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) U.S. states	--	U.S.	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Geography Department
University of Minnesota
Minneapolis, MN 55455

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN

CONTACT: Dwight Brown (612) 625-6080

ASSISTANCE: --

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: --

JUSTIFICATION: System fits needs, cost, matched hardware, compatibility
with others

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: AST Premium, dot matrix printer

CURRENT APPLICATIONS: 1) Teaching: e.g., GIS class
2) Research: e.g., biogeographical analysis

FUTURE APPLICATIONS: 1) Analysis of error.

OUTSIDE ACCESS: Yes, encourage, but resources limited

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Land cover	100 x 100 meters	2 watersheds	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) EPPL7 to and from ERDAS

USER: Geography Department
University of Minnesota
Minneapolis, MN 55455

SYSTEM: ERDAS PC
ERDAS
Atlanta, GA

CONTACT: Phil Gersmehl, Professor (612) 625-6080
Jim Young, Research Assistant

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: --

JUSTIFICATION: --

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC AT, Bernoulli box, digitizer, tape drive

CURRENT APPLICATIONS: 1) Analysis of Landsat images: e.g., land cover
analysis for water resources project

FUTURE APPLICATIONS: 1) GIS

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Various Landsat scenes	--	Twin Cities metro area	

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: EPPL7 to and from ERDAS

USER: Geography Department
University of Minnesota
Minneapolis, MN 55455

SYSTEM: MapMaker
Paul Stayert
Arlington, VA

CONTACT: Phil Gersmehl, Professor (612) 625-6080
Jim Young, Research Assistant

ASSISTANCE: Written materials, answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$55

JUSTIFICATION: Cost, matched hardware, acquired for systems comparison

PRIMARY USE: Cartography/mapping

SECONDARY USE: --

HARDWARE: IBM-PC AT, plotter, digitizer, printer

CURRENT APPLICATIONS: --

FUTURE APPLICATIONS: 1) Available for student use

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Counties	--	N.W. Florida	--
2) Census tracts	--	Gainesville, FL	--
3) States	--	U.S.	--

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1) Sample data supplied with program			

TRANSLATION PACKAGES: --

USER: Geography Department
University of Minnesota
Minneapolis, MN 55455

SYSTEM: MapMaster
Ashton Tate
Torrance, CA

CONTACT: Phil Gersmehl, Professor (612) 625-6080
Jim Young, Research Assistant

ASSISTANCE: Written materials, answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$395

JUSTIFICATION: System fits needs, cost, matched hardware

PRIMARY USE: Cartography/mapping

SECONDARY USE: Analytic/GIS

HARDWARE: IBM-PC AT, plotter, printer

CURRENT APPLICATIONS: 1) Student research papers
2) Classroom exercises
3) Choropleth mapping

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) U.S. states	--	U.S.	--
2) U.S. counties	--	U.S.	--
3) Canada	--	provinces	--
4) Mexico	--	states	--
5) World	--	countries	--
6) Three-digit zipcodes	--	U.S.	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Geography Department
University of Minnesota
Minneapolis, MN 55455

SYSTEM: RANDMAP
Rand McNally
Chicago, IL

CONTACT: Phil Gersmehl, Professor (612) 625-6080
Jim Young, Research Assistant

ASSISTANCE: Written materials, answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$795

JUSTIFICATION: Matched hardware, acquired for systems for comparisons

PRIMARY USE: Cartography/mapping

SECONDARY USE: --

HARDWARE: IBM-PC AT, plotter, printer

CURRENT APPLICATIONS: --

FUTURE APPLICATIONS: 1) Available for student use

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) States	--	U.S.	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Geography Department
University of Minnesota
Minneapolis, MN 55455

SYSTEM: Surfer
Golden Software
Golden, CO

CONTACT: Phil Gersmehl, Professor (612) 625-6080
Jim Young, Research Assistant

ASSISTANCE: Written materials, answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$399

JUSTIFICATION: Cost, matched hardware

PRIMARY USE: Cartography/mapping

SECONDARY USE: Analytic/GIS

HARDWARE: IBM-PC AT, plotter, digitizer, printer

CURRENT APPLICATIONS: 1) Student papers: e.g., presentation of results
2) Isoline/three-dimensional surfaces mapping

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: Surfer from ASCII

USER: Geological Survey, U.S.
702 Post Office Bldg.
St. Paul, MN 55101

SYSTEM: ARC/INFO
ESRI
Redlands, CA

CONTACT: Dave Lorenz (612) 229-2617

ASSISTANCE: No

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$17,000

JUSTIFICATION: Compatibility with others

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: Prime, printer, plotter

CURRENT APPLICATIONS: --

FUTURE APPLICATIONS: 1) Not yet installed

OUTSIDE ACCESS: Yes, encourage; resources limited, must be project cooperators

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Goodhue County Coop Electric
224 Main Street
P.O. Box 99
Zumbrota, MN 55992

SYSTEM: AutoCAD
Autodesk, Inc.
Sausalito, CA

CONTACT: Douglas Fingerson (507) 732-5117

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$2,850

JUSTIFICATION: System fits needs, cost, matched hardware, compatibility with others

PRIMARY USE: Cartography/mapping

SECONDARY USE: CADD/engineering

HARDWARE: Sperry IT (AT compatible), plotter, digitizer

CURRENT APPLICATIONS: 1) Mapping: e.g., field maps with electric utilities and consumer locations
2) Circuit diagrams

FUTURE APPLICATIONS: 1) Add other components to maps, complete with attribute characteristics

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Roads/water	--	1/2 service area -- (county)	
2) Electrical system	--	1/2 service area -- (county)	
3) Consumer roads	--	1/2 service area -- (county)	

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) System data	lines, trans- former, etc.	service area	--
2) Customer data	household	service area	--

TRANSLATION PACKAGES: --

USER: Hennepin County
Dept. of Planning and Development
A-2308 Government Center
Minneapolis, MN 55487

SYSTEM: ULTIMAP
ULTIMAP Corporation
Bloomington, MN

CONTACT: Jim Ford (612) 348-6826

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/raster

PRICE: \$15,000 - \$30,000

JUSTIFICATION: Created originally by county to meet its own needs

PRIMARY USE: 1) Cartography/mapping
2) CADD/emergency
3) Analytic/GIS

SECONDARY USE: --

HARDWARE: Apollo (5XX, 3XXX, 4XXX) digitizer tablets, scanner, plotters,
laser printer, tape drives

CURRENT APPLICATIONS: 1) Demographic analysis: e.g., census tract studies
2) Facilities management: e.g., highway sign inventory
3) Property taxation: e.g., parcel level base map

FUTURE APPLICATIONS: 1) Network analysis
2) Political redistricting

OUTSIDE ACCESS: Yes, users pay full cost, limited resource, difficult to add
new graphic files

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Parcels	+/-5 feet	county	2 weeks
2) Rights of way	+/-5 feet	county	2 weeks
3) Zip codes	+/-100 feet	county	yearly
4) Census	+/-100 feet	county	10 years
5) Road designs	+/- .0001 feet	county roads	as built
6) Floor plans	+/- .5 feet	county bldgs.	various

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Tax rolls	parcels	county	daily
2) Census data and projections	census tract	county	5 years
3) Any ASCII file of addresses	parcel	county	depends on user

TRANSLATION PACKAGES: --

USER: Hennepin County
Department of Transportation
320 Washington Avenue S.
Hopkins, MN 55343

SYSTEM: ULTIMAP
ULTIMAP Corp.
Bloomington, MN

CONTACT: Michael W. Loegering (612) 935-3381

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: Developed in-house

JUSTIFICATION: Developed to fit own needs

PRIMARY USE: 1) Cartography/mapping
2) CADD/engineering

SECONDARY USE: 1) Analytic/GIS
2) Facilities mapping

HARDWARE: Apollo, various plotters, laser printer

CURRENT APPLICATIONS: 1) Engineering: e.g., highway construction plans
2) Automated mapping: e.g., half section parcel maps
3) Demographic modeling: e.g., map census tract data

FUTURE APPLICATIONS: 1) Transportation information systems
2) Network analysis

OUTSIDE ACCESS: Yes, data and software available to Hennepin County
municipalities having hardware and operator

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Parcel boundaries	--	county	ongoing
2) County roads	--	county	ongoing
3) Construction projects	--	project area	as needed

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) 1980 Census	tract	county	10 years
2) Assessor rolls	parcel	county	annual
3) Traffic volume	station	county	annual
4) Traffic accidents	incident	county	annual
5) Bridges	bridge number	county	ongoing
6) Numerous others			--

TRANSLATION PACKAGES: --

USER: Hennepin County Surveyor
A-703 Government Center
Minneapolis, MN 55487

SYSTEM: ULTIMAP
ULTIMAP Corporation
Bloomington, MN

CONTACT: Robert Moulder, mapping applications (612) 348-2618
Byron Eaves, road base maps (612) 348-3427

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: --

JUSTIFICATION: Developed in-house to meet own needs

PRIMARY USE: Cartography/mapping

SECONDARY USE: --

HARDWARE: Apollo, laser printer, plotter, film recorder

CURRENT APPLICATIONS: 1) Property maps
2) Coordinate base map

FUTURE APPLICATIONS: 1) Street network
2) DIME file overlay for address ranges

OUTSIDE ACCESS: Yes, but users pay full cost, resources limited, depends on priorities

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Property boundaries	+/-2-5 feet	Hennepin County	2 months

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1) Tax data	parcel	county-wide	continuous

TRANSLATION PACKAGES: --

USER: Horizons, Inc.
6125 Blue Circle Drive
Minnetonka, MN 55343

SYSTEM: AutoCAD
Autodesk
Sausalito, CA

CONTACT: Douglas Caine, computer systems engineer (612) 931-9869
1635 Deadwood Ave.
Rapid City, SD 57702

ASSISTANCE: Written material, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$3,000

JUSTIFICATION: Compatibility with others, client demand

PRIMARY USE: Cartography/mapping

SECONDARY USE: Analytic/GIS

HARDWARE: IBM PC, plotter, work stations

CURRENT APPLICATIONS: 1) Digital mapping: e.g. architecture and engineering

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: Yes, users pay full costs, resources limited

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: Digimap to AutoCAD

USER: Horizons, Inc.
6125 Blue Circle Drive
Minnetonka, MN 55343

SYSTEM: Digimap
Diginetics, Inc.
Albuquerque, NM

CONTACT: Douglas Caine, computer systems engineer (612) 931-9869
1635 Deadwood Avenue
Rapid City, SD 57702

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: --

PRICE: \$50,000

JUSTIFICATION: System fits needs, cost, matched hardware, "super mapping system"

PRIMARY USE: 1) Cartography/mapping
2) CADD/engineering
3) Analytic/GIS

SECONDARY USE: --

HARDWARE: VAX 11/750 and 11/173, plotter, work stations

CURRENT APPLICATIONS: 1) Digital mapping, e.g. city of Shawano, WI and others

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: Yes, users pay full cost, resources limited

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) Intergraph from Digimap
2) AutoCAD from Digimap

USER: Horizons, Inc.
6125 Blue Circle Drive
Minnetonka, MN 55343

SYSTEM: Intergraph Micro II
Intergraph
Huntsville, AL

CONTACT: Douglas Caine, computer systems engineer (612) 931-9869
1635 Deadwood Ave.
Rapid City, SD 57702

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$50,000

JUSTIFICATION: Matched hardware, client demand

PRIMARY USE: 1) Cartography/mapping
2) Analytic/GIS

SECONDARY USE: --

HARDWARE: VAX 11/750 and 11/730, plotter, work stations

CURRENT APPLICATIONS: 1) Digital mapping: for engineering firms

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: Yes, users pay full costs, resources limited

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: Digimap to Intergraph

USER: Landscape Architecture Program
University of Minnesota
St. Paul, MN 55108

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN

CONTACT: Joan Nassauer (612) 624-5300

ASSISTANCE: Written materials

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: --

JUSTIFICATION: Compatibility

PRIMARY USE: Analytic/GIS

SECONDARY USE: --

HARDWARE: IBM-PC AT, printer

CURRENT APPLICATIONS: 1) Land capability analysis: e.g., landscape visual
quality, non-point pollution potential

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Soil type	10 acres	Wright County	--
2) Land cover	10 acres	Wright County	1979
3) Visual quality	1 acre	Olmsted County	--
4) Miscellaneous data from Rochester-Olmsted Planning			

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: LOGIS
2700 Freeway Blvd. Suite 300
Brooklyn Center, MN 55430

SYSTEM: ULTIMAP
ULTIMAP Corporation
Bloomington, MN

CONTACT: Paul M. Blais (612) 566-0050

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$36,500/work station

JUSTIFICATION: System fits needs, cost, compatability

PRIMARY USE: Cartography/mapping

SECONDARY USE: Analytic/GIS

HARDWARE: Apollo DN3000, plotter, digitizer

CURRENT APPLICATIONS: 1) Municipal mapping: e.g., inventory of infrastructure
2) Land analysis: e.g., mapping of assessor database
3) On-line enquiry: e.g., examine valuation data

FUTURE APPLICATIONS: 1) Network analysis
2) Polygon analysis

OUTSIDE ACCESS: Yes, but must be a member of LOGIS public agency consortium

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Property map	+/-10 feet	4 cities*	ongoing

ATTRIBUTE FILES: --

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1) Assessor data	parcel	city	ongoing
2) Utility billing	parcel	city	ongoing

USER: Markhurd Corporation
345 Pennsylvania Avenue South
Minneapolis, MN 55426

SYSTEM: AutoCAD
Autodesk Inc.
Sausalito, CA

CONTACT: Lee S. Sandberg, software development and computer systems
(612) 545-2583

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$3,500

JUSTIFICATION: Matched client systems

PRIMARY USE: Cartography/mapping

SECONDARY USE: CADD/engineering

HARDWARE: Compaq Deskpro 286, plotters, digitizer

CURRENT APPLICATIONS: 1) Mapping: e.g., deliver map sheets in AutoCAD format
2) Conversion/translation: e.g., translate graphic files into AutoCAD

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: All files ultimately delivered to client

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: Intergraph IGDS to and from AutoCAD
IGES to and from AutoCAD

USER: Markhurd Corporation
345 Pennsylvania Avenue South
Minneapolis, MN 55426

SYSTEM: Intergraph
Intergraph Corp.
Huntsville, AL

CONTACT: Lee S. Sandberg, software development and computer systems
(612) 545-2583

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: --

JUSTIFICATION: System fits needs, matched client system

PRIMARY USE: Cartography/mapping

SECONDARY USE: --

HARDWARE: Intergraph 751 (DEC VAX 11/751), dual screen work stations, digitizers

CURRENT APPLICATIONS: 1) Photogrammetric map compilation: e.g., topographic maps, engineering/cross-section maps
2) Map conversion (digitizing): e.g., land use maps, polygon maps
3) Geographic information system: e.g., digital raster orthophotos, link non-graphic database

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: All files ultimately delivered to client

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) IGES to and from Intergraph
2) ISIF to and from Intergraph
3) AutoCAD to and from Intergraph
4) SysScan to and from Intergraph
5) Intergraph to MOSS
6) Intergraph to DLG-3
7) Intergraph to VANGO

USER: Markhurd Corporation
345 Pennsylvania Avenue South
Minneapolis, MN 55426

SYSTEM: SysScan
MBB/SysScan
Jericho, NY
(SysScan a.s.,
Kongsberg, Norway)

CONTACT: Lee S. Sandberg, Software development and computer systems
(612) 545-2583

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Both raster/grid and vector/polygon

PRICE: \$70,000

JUSTIFICATION: System fits needs

PRIMARY USE: Cartography/mapping

SECONDARY USE: CADD/engineering

HARDWARE: VAX 11/780, VAX 11/750, optical raster scanner, plotter, vector
work stations, digitizers

CURRENT APPLICATIONS: 1) Digital terrain models: e.g., create DTM from
contour map by scanning
2) Polygon maps: e.g., create polygon file by scanning
polygon on map

FUTURE APPLICATIONS: 1) Symbol recognition
2) Automatic data layering

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: All files ultimately delivered to client

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: Intergraph IGDS to and from SysScan

USER: Markhurd Corporation
345 Pennsylvania Avenue South
Minneapolis, MN 55426

SYSTEM: ULTIMAP
ULTIMAP Corporation
Bloomington, MN

CONTACT: Lee S. Sandberg, Software development and computer systems
(612) 545-2583

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$30,000

JUSTIFICATION: Matched client system

PRIMARY USE: Cartography/mapping

SECONDARY USE: Analytic/GIS

HARDWARE: Apollo DN3000, plotters, digitizers

CURRENT APPLICATIONS: 1) Map sheet digitizing: e.g., land parcels

FUTURE APPLICATIONS: 1) Polygon analysis

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: All files ultimately delivered to client

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Martinez Corporation
240 East Fillmore Avenue
St. Paul, MN 55107

SYSTEM: KORK Digital
Mapping System
KORK Systems, Inc.
Bangor, ME
(recently installed
AutoCAD)

CONTACT: Gerald V. Erickson (612) 291-1171

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: --

JUSTIFICATION: System fits needs, cost

PRIMARY USE: Cartography/mapping

SECONDARY USE: 1) CADD/engineering
2) Analytic/GIS

HARDWARE: DEC PDP1173, various plotters, stereo plotters, digitizing tablet,
tape drive

CURRENT APPLICATIONS: 1) Digitizing for photogrammetric purposes: e.g.,
engineering work, GIS systems
2) Digitizing polygons: e.g., soil classification,
vegetation types
3) Digitizing existing hard copy documents: e.g.,
utility drawings

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: Project specific proprietary data delivered to client

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) KORK to AutoCAD
2) KORK to Intergraph
3) KORK to Computervision

USER: Metropolitan Council
300 Metro Square Bldg.
St. Paul, MN 55101

SYSTEM: Atlas AMP
Strategic Locations
Planning
San Jose, CA

CONTACT: Linda Tomaselli or Julie Opitz (Data Center) (612) 291-6359

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$400

JUSTIFICATION: System fits needs, cost

PRIMARY USE: Cartography/mapping

SECONDARY USE: --

HARDWARE: IBM PS/2 Model 50, printer

CURRENT APPLICATIONS: 1) Mapping census data: e.g., income by city/township

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: Yes, but staff busy

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) City/township boundary	+/-30 feet	seven-county metro area	

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1) Census data	city/township	seven-county metro area	10 years

TRANSLATION PACKAGES: SAS to Atlas

USER: Metropolitan Council
300 Metro Square Bldg.
St. Paul, MN 55101

SYSTEM: EPPL7
State Planning
Agency

CONTACT: Linda Tomaselli or Julie Opitz (Data Center) (612) 291-6359

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$400

JUSTIFICATION: Availability of data, in-house analysis previously done at service bureau

PRIMARY USE: Analytic/GIS

SECONDARY USE: --

HARDWARE: IBM PS/2 Model 50, printer

CURRENT APPLICATIONS: 1) Map agency program participation: e.g., Agricultural Preserves Program
2) Technical support to small communities: e.g., GIS based on land use and census block data
3) Support population analysis: e.g., estimate population within three miles of centroids

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: Yes, but users pay full cost, staff busy, difficult to add new graphic data files, work must be done by staff

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Public land survey	40 acres	seven county metro area	--
2) City/township	40 acres	seven county metro area	--
3) Land use (1984)	100 meters	seven county metro area	3 to 4 years
4) Land use (1969)	40 acres	seven county metro area	--
5) Blocks	10 meters	city of Anoka	--
6) Land use	10 meters	city of Anoka	--
7) DIME file	10 meters	city of Anoka	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Agricultural preserves	10 acres	seven county metro area	annual
2) Assessor's data	parcel	city of Anoka	--
3) Police calls	census block	city of Anoka	--
4) School enrollment	census block	city of Anoka	--
5) Fire calls	census block	city of Anoka	--

TRANSLATION PACKAGES: SAS to EPPL7

USER: Metropolitan Council
300 Metro Square Bldg.
St. Paul, MN 55101

SYSTEM: PC - ARC/INFO
ESRI
Redlands, CA

CONTACT: Roy Larson, Information Systems (612) 291-6359

ASSISTANCE: --

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$10,000

JUSTIFICATION: System fits needs, cost, matched hardware, compatibility,
availability of data

PRIMARY USE: Analytic/GIS

SECONDARY USE: --

HARDWARE: IBM PS/2 model 80, plotter, digitizer

CURRENT APPLICATIONS: --

FUTURE APPLICATIONS: 1) Update land use inventory: e.g. interpret and
digitize aerial photography
2) Update GBF/DIME File: e.g., digitize new streets,
census blocks
3) Digitize administrative and natural boundaries for
land use overlays: e.g., TAZ (traffic assignment
zones), MUSA (metropolitan urban service area),
watersheds

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Land use	.5 acre minimum	seven county metro area	3 to 4 years

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: ARC/INFO to SAS

USER: Metropolitan Council
300 Metro Square Bldg.
St. Paul, MN 55101

SYSTEM: SAS/GRAPH
SAS Institute
Cary, NC

CONTACT: Linda Tomaselli or Julie Opitz (Data Center) (612) 291-6359

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: --

JUSTIFICATION: Match hardware, compatible with others, module on existing
SAS statistical package

PRIMARY USE: Cartography/mapping

SECONDARY USE: Analytic/GIS

HARDWARE: IBM 4381, plotters, terminals, laser printer

CURRENT APPLICATIONS: 1) Choropleth mapping: e.g., census tracts by single
parent families, land use by parcel

FUTURE APPLICATIONS: 1) Create TAZs (traffic assignment zones) by combining
1980 census blocks
2) Geocode addresses to census boundaries using ADMATCH

OUTSIDE ACCESS: Yes, but users pay full cost, staff busy, work must be done
by staff if available

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) City/township boundary	+/-30 feet	seven county metro area	10 years
2) Tract boundary	+/-30 feet	seven county metro area	10 years
3) Block boundary	+/-30 feet	1980 urbanized area	10 years
4) County	+/-30 feet	U.S.	--
5) Land use polygons	1/2 acre min.	seven county metro area	3 to 4 years
6) DIME	+/-30 feet	1980 urbanized area	10 years

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) 1980 Census	block, tract, city/township	seven-county metro area	10 years
2) DIME	block face	urbanized area	to 1986
3) Population estimates and forecasts	city/township	seven-county metro area	annual
4) UTPP - census by place of work	TAZ, tract	seven-county metro area	10 years

TRANSLATION PACKAGES: 1) SAS to EPPL
2) SAS to ATLAS
3) ARC/INFO to SAS

USER: Military Affairs (MN Dept. of)
P.O.Box 348
Little Falls, MN 56345

SYSTEM: GRASS (Geographic
Research Analysis
and Support Sys.)
U.S. Army Corp of
Engineers
Champaign, IL

CONTACT: John F. Ebert, facilities management office
(612) 632-6631 ext. 447

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Both raster/grid and vector/polygon

PRICE: \$200 (distribution cost of public domain software)

JUSTIFICATION: System fits needs, cost, compatability, power and
flexibility

PRIMARY USE: Analytic/GIS

SECONDARY USE: 1) Cartography/mapping
2) Imagery integration

HARDWARE: MASSCOMP 55020, color hardcopy device, tape drive

CURRENT APPLICATIONS: 1) Land capability analysis: e.g., siting small arms
ranges, locating landfill
2) Training land management: e.g., assessing training
impact on land, schedule training land use
3) Vegetation management: e.g., timber sale schedules

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) SCS soils	25 meters	Camp Ripley	--
2) DNR forest	25 meters	Camp Ripley	--
3) USGS topography	25 meters	Camp Ripley	--
4) USGS water	25 meters	Camp Ripley	--
5) Land use	25 meters	Camp Ripley	--
6) Wildlife	25 meters	Camp Ripley	--
7) Political boundaries	25 meters	Camp Ripley	--
8) Training areas	25 meters	Camp Ripley	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Historical site	--	Camp Ripley	--

TRANSLATION PACKAGES: --

USER: Minneapolis, City of
1800A Government Center
Minneapolis, MN 55487

SYSTEM: ULTIMAP
ULTIMAP Corporation
Bloomington, MN

CONTACT: Brad Henry, Public Works (612) 348-6587

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/raster

PRICE: --

JUSTIFICATION: Originally developed by the city with Hennepin County to meet internal needs

PRIMARY USE: 1) Cartography/mapping
2) CADD/engineering
3) Analytic/GIS

SECONDARY USE: --

HARDWARE: Apollo, plotters, printers

CURRENT APPLICATIONS: 1) Engineering: e.g., plan/profile sheets for construction projects
2) Property mapping: e.g., county-wide property data base
3) Automated planning maps: e.g., GIS of all types

FUTURE APPLICATIONS: 1) Scanning plans/photos for "instant" access
2) Building complete topographic data base

OUTSIDE ACCESS: Yes, encourage; do as much as we can

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Parcel	--	county-wide	--
2) Plan/profile of streets	--	scattered projects	--
3) Topography	--	partial	--
4) Utility system	--	partial	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Tax data	parcel	county-wide	annual
2) Assessor's data	parcel	partial	four years

TRANSLATION PACKAGES: ULTIMAP to and from Intergraph

USER: Natural Resources (MN Dept. of)
Division of Forestry, GIS Unit
1201 East Highway 2
Grand Rapids, MN 55744

SYSTEM: ARC/INFO
ESRI
Redlands, CA

CONTACT: Dan Reick (218) 327-4449

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$10,000

JUSTIFICATION: System fits needs, compatability

PRIMARY USE: Analytic/GIS

SECONDARY USE: --

HARDWARE: Prime 2250-16, plotter, printer, tape drive

CURRENT APPLICATIONS: 1) Forest cover type inventory

FUTURE APPLICATIONS: 1) Additional management data: e.g., timber stand
management

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage*</u>	<u>Update</u>
1) Forest cover	3 meters	state-owned land	continuous
2) Roads	3 meters	state-owned land	continuous
3) Section corners	3 meters	state-owned land	continuous

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1) Stand data	stand	all state, some county-owned land	continuous

TRANSLATION PACKAGES: DLG3 to and from ARC/INFO

*Roughly 25 percent of acreage complete; 100 percent by 1991.

USER: Natural Resources (MN Dept. of)
Division of Waters
500 Lafayette Road, Box 32
St. Paul, MN 55155-4032

SYSTEM: AutoCAD
Autodesk
Sausalito, CA

CONTACT: Rick Gelbman (612) 296-2790
Jerry Johnson (612) 296-0430

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$3,800

JUSTIFICATION: System fits needs

PRIMARY USE: CADD/engineering

SECONDARY USE: 1) Cartography/mapping
2) Analytic/GIS

HARDWARE: IBM-PC AT, plotter, digitizer, printer

CURRENT APPLICATIONS: 1) Engineering drafting: e.g., topography, profiles,
cross-section
2) Mapping: e.g., geographic locations, site maps
3) Graphics: e.g., forms, charts, diagrams

FUTURE APPLICATIONS: 1) Increased 3-D use
2) Data input from data files

OUTSIDE ACCESS: Yes, but equipment busy

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Drawings	--	survey sites	--
2) Water	+/-25 feet	5 USGS quads	--
3) Roads	+/-25 feet	5 USGS quads	--
4) Section lines	+/-25 feet	5 USGS quads	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) AutoCAD to and from IGES (International Geographic
Exchange Standard)
2) AutoCAD to and from DXB (Data Exchange Binary)
3) AutoCAD to and from DXF (Data Exchange Format)

USER: Natural Resources (MN Dept. of)
Office of Planning
500 Lafayette Road
St. Paul, MN 55155-4101

SYSTEM: EPPL6
State Planning
Agency
St. Paul, MN
(also ARC/INFO and
EPPL7)

CONTACT: Glenn L. Radde (612) 296-4798

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS: See State Planning Agency

CURRENT APPLICATIONS: 1) Land suitability analysis: e.g., evaluation of
prime habitat factors for selected mammals
2) Resource assessment: e.g., support decisions on
land acquisition and disposal
3) Regional planning: e.g., recreation expenditure
patterns

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: Yes, users pay full costs, resources limited

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) State forest mgmt units	legal description	statewide	1982
2) State parks	legal description	statewide	1982
3) State wildlife mgmt units	legal description	statewide	1982
4) Public access sites	legal description	statewide	1982
5) Ranges for 13 species	legal description	statewide	1982
6) Black bear mgmt zone	legal description	statewide	1987
7) Recreation facilities	legal description	statewide	continuous
8) Natural heritage sites	legal description	statewide	continuous

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Census data	city/township	statewide	10 years
2) Furbearer harvest	township	statewide	annual
3) Lake use surveys	lake	regional	annual

TRANSLATION PACKAGES: 1) EPPL6 to ARC/INFO
2) EPPL7 to ARC/INFO

USER: Natural Resources (MN Dept. of)
Division of Waters
500 Lafayette Road, Box 32
St. Paul, MN 55155-4032

SYSTEM: EPPL6
State Planning
Agency
St. Paul, MN

CONTACT: Rick Gelbman (612) 296-2790

ASSISTANCE: Answer questions, demonstrate

SYSTEM SPECIFICATIONS: See State Planning Agency

CURRENT APPLICATIONS: 1) Special research projects: e.g., water allocation
analysis by watershed

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Watershed boundary	40 acres	statewide	--

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1) Protected waters inventory	lakes & wetlands	statewide	--

TRANSLATION PACKAGES: --

USER: Natural Resources (MN Dept. of)
Division of Waters
500 Lafayette Road, Box 32
St. Paul, MN 55155-4032

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN

CONTACT: Rick Gelbman (612) 296-2790

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$400

JUSTIFICATION: System fits needs, cost, match hardware, compatibility,
familiarity with EPPL6, usable in field office

PRIMARY USE: Cartography/mapping

SECONDARY USE: Analytic/GIS

HARDWARE: IBM-PC AT, printer

CURRENT APPLICATIONS: 1) Map geographically distributed data: e.g., wells,
permits
2) Analyze trends: e.g., changes in type and location
of permit applications

FUTURE APPLICATIONS: 1) Put above applications in field offices

OUTSIDE ACCESS: Yes, but staff time limited

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) County boundary	section	Minnesota	--
2) Major watershed	section	Minnesota	--
3) Minor watershed	section	Minnesota	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Allocation & protection	permits	Minnesota	on demand
2) Observation wells	well	Minnesota	on demand
3) Private wells	well	Minnesota	on demand

TRANSLATION PACKAGES: --

USER: Natural Resources (MN Dept. of)
State Climatology Office
5325 Borlaug Hall
University of Minnesota
St. Paul, MN 55108

SYSTEM: Mapper
State Climatology
Office
St. Paul, MN

CONTACT: James A. Zandlo (612) 296-4214

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: Public domain

JUSTIFICATION: Developed to meet needs

PRIMARY USE: Cartography/mapping

SECONDARY USE: Analytic/GIS

HARDWARE: Cyber and IBM-PC

CURRENT APPLICATIONS: 1) Extract and map weather data: e.g., rainfall in one month period at 1,000 gauge station

FUTURE APPLICATIONS: 1) Hybrid field analysis with local "storm axis" enhancement

OUTSIDE ACCESS: Yes, but users pay full costs, resources limited, difficult to add new graphic files

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) National Weather Service stations	section	150-200 state-wide	--
2) Volunteer stations	section	800 statewide	--
3) County outline	+/- .1 mile	statewide	--
4) Section corners	+/- .1 mile	statewide	--

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1) Rainfall	station/day	1,000 stations statewide	daily
2) Temperature/precipitation	station/day	150 stations	daily

TRANSLATION PACKAGES: --

USER: Natural Resources (MN Dept. of)
Division of Waters
500 Lafayette Road, Box 32
St. Paul, MN 55155-4032

SYSTEM: Prodesign
American Small Bus-
iness Systems
Pryor, OK

CONTACT: Rick Gelbman (612) 296-2790

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$299

JUSTIFICATION: Cost, matched hardware

PRIMARY USE: CADD/engineering

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC AT, plotter, printer, digitizer

CURRENT APPLICATIONS: 1) Geophysical mapping: e.g., plot electromagnetic
response to find tanks, drums, etc.
2) Groundwater monitoring: e.g., map water table
contours

FUTURE APPLICATIONS: 1) 3-D analysis

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: AutoCAD to and from Prodesign

USER: Natural Resources Research Institute
3151 Miller Trunk Highway
Duluth, MN 55811

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN

CONTACT: Lucinda Johnson, Center for Water and Environment
(218) 720-4251

ASSISTANCE: Written materials

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$400

JUSTIFICATION: Compatibility, availability of data

PRIMARY USE: Analytic/GIS

SECONDARY USE: --

HARDWARE: IBM-PC AT, printer, plotter

CURRENT APPLICATIONS: 1) Analysis of landscape transitions: e.g., shoreline erosion, effects of beaver on hydrology, effects of disturbances on forest tree species distribution

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: State Planning Agency files, refined using photo interpretation

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: EPPL7 to ERDAS

USER: Natural Resources Research Institute
3151 Miller Trunk Highway
Duluth, MN 55811

SYSTEM: ERDAS
ERDAS Inc.
Atlanta, GA

CONTACT: Lucinda Johnson, Center for Water and Environment
(218) 720-4251

ASSISTANCE: Written material

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$22,000

JUSTIFICATION: System fits needs

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC AT, plotter, printer, digitizer, tape drive

CURRENT APPLICATIONS: 1) Analysis of landscape transitions: e.g., shoreline erosion, effect of loss of wetlands on water quality, effect of beaver on hydrology

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Hydrology	--	Voyageur's National Park	--
2) Geology	--	Isle Royale	--
3) Cover type	--	Sylvania National Forest	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: Own or know about 1) EPPL7 to ERDAS
2) ERDAS to and from ARC/INFO

USER: Natural Resources Research Institute
3151 Miller Trunk Highway
Duluth, MN 55811

SYSTEM: MAP
Harvard Mapping
Laboratory
Atlanta, GA

CONTACT: Lucinda Johnson, Center for Water and Environment
(218) 720-4251

ASSISTANCE: Written materials

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$15

JUSTIFICATION: Curiosity

PRIMARY USE: Not in use at present

SECONDARY USE: --

HARDWARE: IBM-PC AT, printer, plotter, digitizer, tape drive

CURRENT APPLICATIONS: None at present

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Nicollet County
P.O. Box 65, Courthouse Square
St. Peter, MN 56082

SYSTEM: none
(needs assessment
completed or
underway)

CONTACT: Pamela Rivers, Coordinator's Office

ASSISTANCE: No

SOFTWARE SPECIFICATIONS

DATA STRUCTURE:

PRICE:

JUSTIFICATION:

PRIMARY USE:

SECONDARY USE:

HARDWARE:

CURRENT APPLICATIONS: 1)
2)
3)

FUTURE APPLICATIONS: 1)
2)
3)

OUTSIDE ACCESS:

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1)			
2)			
3)			
4)			
5)			
6)			

TRANSLATION PACKAGES:

USER: Northern States Power Company
825 Rice Street
St. Paul, MN 55117

SYSTEM: AutoCAD
Autodesk
Sausalito, CA

CONTACT: Richard Elhardt, Electric Service (612) 221-4558

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$2,800

JUSTIFICATION: Compatibility with others

PRIMARY USE: Cartography/mapping

SECONDARY USE: --

HARDWARE: Apollo DN 3000, plotter

CURRENT APPLICATIONS: 1) Mapping: e.g., major electricity distribution
system

FUTURE APPLICATIONS: 1) Facilities management

OUTSIDE ACCESS: Yes, but will evaluate each request

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Streets/water	+/-50 feet	USGS quads in eastern metro	--
2) Transmission lines/ transformers	+/-50 feet	eastern metro	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55101

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN

CONTACT: Mark Gamm, ERAD (612) 330-6359

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$500

JUSTIFICATION: Matched hardware, availability of data

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC XT

CURRENT APPLICATIONS: 1) Environmental impact assessment: e.g., impact of
proposed transmission line
2) Siting: e.g., suitability based on spatial
distribution of resources

FUTURE APPLICATIONS: 1) Cartographic data base

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: See State Planning Agency

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Pollution Control Agency (MN)
520 Lafayette Road
St. Paul, MN 55155

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN
(also many EPPL6
applications)

CONTACT: Justin Blum, site response (612) 296-7706
Eric Porcher, Groundwater and Solid Waste Division (612) 297-1788

ASSISTANCE: --

SYSTEM SPECIFICATIONS: See State Planning Agency

CURRENT APPLICATIONS: 1) Hydrologic/geologic: e.g., groundwater
contamination
2) Physical resource map: e.g., susceptibility for
groundwater contamination

FUTURE APPLICATIONS: 1) Demographic information

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Groundwater contamination	--	5 sites	--
2) Soil boundary	1:250,000	statewide	--
3) Aquifer boundary	1:500,000	statewide	--
4) Unsaturated zone	1:500,000	statewide	--
5) Recharge potential	1:500,000	statewide	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Potlatch Corporation
105 Arch Street
Cloquet, MN 55720

SYSTEM: PC ARC/INFO
ESRI
Redlands, CA

CONTACT: Tim Krohn, MN Wood Products Division (218) 879-0441

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$5,600

JUSTIFICATION: System fits needs, cost

PRIMARY USE: Cartography/mapping

SECONDARY USE: --

HARDWARE: IBM PS/2 model 60, digitizer, printer/plotter

CURRENT APPLICATIONS: 1) Forest inventory

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Forest cover type	--	company lands 250,000 acres in 17 counties	20% annually
2) Section coordinates	--	--	--
3) Roads, rivers, power- lines, etc.	--	--	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Inventory volume	stand	company lands	20% annually
2) Management costs	stand	company lands	20% annually

TRANSLATION PACKAGES: --

USER: Ramsey County Public Works Survey
350 St. Peter Street, Suite 270
St. Paul, MN 55102

SYSTEM: ULTIMAP
ULTIMAP Corporation
Bloomington, MN

CONTACT: Curt Peterson (612) 298-5278

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$100,000

JUSTIFICATION: System fits needs, compatibility with others

PRIMARY USE: 1) Cartography/mapping
2) Analytic/GIS

SECONDARY USE: CADD/engineering

HARDWARE: Apollo (DN3000, DN560, DN330) digitizer, various plotters, laser printer

CURRENT APPLICATIONS: 1) Coordinate control base mapping: e.g., update map, property information
2) Community analysis: e.g., map densely populated areas with high/low property values
3) Engineering and design: e.g., constructing roads, bridges, traffic signals, parks, etc.

FUTURE APPLICATIONS: 1) Include all structure and infrastructure data for public information, health, safety, and welfare

OUTSIDE ACCESS: Yes, department controls quality or integrity of data placed in system

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Control points	+/-0.1 feet	Ramsey County	continuous
2) Parcels	+/-2 feet	Ramsey County*	continuous
3) Road alignments	+/-2 feet	Ramsey County*	continuous
4) Edge of water	+/-2 feet	Ramsey County*	continuous
5) Structures	+/-2 feet	Ramsey County*	continuous

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Tax rolls	parcel	county-wide	--
2) Assessor rolls	parcel	county-wide	--

TRANSLATION PACKAGES: 1) Intergraph to ULTIMAP
2) ULTIMAP to Intergraph (soon)

*Roughly one-quarter county complete in February 1988

USER: Remote Sensing Lab
University of Minnesota
St. Paul, MN 55108

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN

CONTACT: Sean Ahearn (612) 624-7764

ASSISTANCE: --

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$400

JUSTIFICATION: System fits needs, matched hardware, diversity for teaching

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC AT, PS/2 model 80, digitizer, plotter

CURRENT APPLICATIONS: 1) Teaching

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) SPOT	10 & 20 meters	parts of Minn.	--
2) MSS	70 meters	parts of Minn.	--
3) Thematic mapper	10 & 20 meters	parts of Minn.	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: ERDAS to EPPL7

USER: Remote Sensing Lab
University of Minnesota
St. Paul, MN 55108

SYSTEM: ERDAS-GIS
ERDAS
Atlanta, GA

CONTACT: Sean Ahearn (612) 624-7764

ASSISTANCE: --

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$20,000 (including image processing)

JUSTIFICATION: System fits needs, matched hardware, diversity for teaching

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC AT, PS/2 model 80, digitizer, plotter

CURRENT APPLICATIONS: 1) General purpose: image processing for satellite
data

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) SPOT	10 & 20 meters	parts of Minn.	--
2) MSS	70 meters	parts of Minn.	--
3) Thematic mapper	30 meters	parts of Minn.	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) ERDAS to SPANS
2) ERDAS to EPPL7

USER: Remote Sensing Lab
University of Minnesota
St. Paul, MN 55108

SYSTEM: PC-ARC/INFO
ERSI
Redlands, CA
(summer 1988)

CONTACT: Sean Ahearn (612) 624-7764

ASSISTANCE: --

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$7,500

JUSTIFICATION: System fits needs, matched hardware, diversity for teaching

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC AT, PS/2 model 80, digitizer, plotter

CURRENT APPLICATIONS: 1) Database management
2) Graphic production

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) SPOT	10 & 20 meters	parts of Minn.	--
2) MSS	70 meters	parts of Minn.	--
3) Thematic mapper	30 meters	parts of Minn.	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: SPANS to and from PC-ARC/INFO

USER: Remote Sensing Lab
University of Minnesota
St. Paul, MN 55108

SYSTEM: SPANS
Tydac
Ottawa, Ontario

CONTACT: Sean Ahearn (612) 624-7764

ASSISTANCE: --

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$7,000 (educational discount)

JUSTIFICATION: System fits needs, matched hardware, diversity for teaching

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC AT, PS/2 model 80, digitizer, plotter

CURRENT APPLICATIONS: 1) Timber yield forecasting
2) Forest inventory: e.g., integrate remote sensing data with plot samples
3) Prairie inventory and management
4) Wildlife habitat evaluation: e.g., deer, owl

FUTURE APPLICATIONS: 1) Watershed studies
2) Sustainable development assessment

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) SPOT	10 & 20 meters	parts of Minn.	--
2) MSS	70 meters	parts of Minn.	--
3) Thematic mapper	30 meters	parts of Minn.	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) ERDAS to SPANS
2) SPANS to and from PC ARC/INFO

USER: Rochester-Olmsted Planning and HRA
2122 Campus Drive S.E.
Rochester, MN 55904

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN

CONTACT: Phil Wheeler (507) 285-8232

ASSISTANCE: Written material, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$400

JUSTIFICATION: System fits needs, cost, matched hardware, availability of data

PRIMARY USE: Analytic/GIS

SECONDARY USE: --

HARDWARE: AT (clone), color and black-and-white printers

CURRENT APPLICATIONS: 1) Natural process modeling/analysis: e.g., sheet and rill erosion model, wind erosion, runoff model
2) Development suitability analysis: e.g., zoning change analysis based on septic tank suitability, feedlot proximity, etc.
3) "Hot spot" analysis: e.g., scoring system to rank erosion problems

FUTURE APPLICATIONS: 1) More of current applications using 1987 land use and parcel data
2) Urban applications: e.g., noise sensitivity, development application reviews

OUTSIDE ACCESS: Yes, but non-government users must pay full costs, staff busy

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Soils	10 meter grid*	county-wide	--
2) 1981 land use	10 meter grid*	county-wide	annual, starting in 1987
3) Stream centerlines	10 meter grid*	county-wide	--
4) Rural parcels	10 meter grid*	county-wide	annual, starting soon
5) Sinkholes/springs	10 meter grid*	county-wide	annual, starting soon
6) Wells			annual, starting soon
7) All SPA data	40 acre cell	county-wide	annual
8) Feedlots	10 meter grid	1 township	annual
9) Census DIME file	--	urbanized area	10 years

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Soil ratings	soil unit	county-wide	--
2) Assessors' files	parcel	county-wide	annual
3) Well data (e.g., depth, NO ₃ level)	wells	county-wide	annual

TRANSLATION PACKAGES: 1) AutoCAD to and from ARC/INFO.
2) Soil Survey Information System to EPPL7

*Data also available by 5 meter and 100 meter grid cells.

USER: St. Paul, City of
600 City Hall Annex
St. Paul, MN 55102

SYSTEM: AutoCAD
Autodesk
Sausalito, CA

CONTACT: Rick Person, Public Works (612) 292-6122

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: Six licenses @ \$2,500

JUSTIFICATION: System fits needs, compatibility, availability of data

PRIMARY USE: Cartography/mapping

SECONDARY USE: Analytic/GIS

HARDWARE: Pyramid 98X Supermini and six Compaq 386 Deskpros, plotter

CURRENT APPLICATIONS: 1) DIME-based geobase correction/enhancement: e.g.,
upgrade coordinates, add and delete street segments

FUTURE APPLICATIONS: 1) Integrate with Ramsey County land base for thematic
mapping and CAD
2) City-wide GIS

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Geobase (see below for components)	+/-2 feet	city	continuous

ATTRIBUTE FILES:

<u>Type</u>	<u>Unit Record</u>	<u>Coverage</u>	<u>Update</u>
1) Street, sewer, water, sidewalk	segments	city	annual
2) Signs, lights	unit	city	daily
3) Tree	unit	city	annual

TRANSLATION PACKAGES: Hope for AutoCAD to ULTIMAP

USER: St. Louis County Land Department
320 W. 2nd Street, Room 607 GSC
Duluth, MN 55804

SYSTEM: ARC/INFO
ESRI
Redlands, CA

CONTACT: Thomas Zeisler (218) 726-2606

ASSISTANCE: Written materials (soon), answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: --

JUSTIFICATION: System fits needs, cost, compatibility with others

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: Prime 2550, plotter, digitizers

CURRENT APPLICATIONS: 1) Land management: e.g. resource appraisal, sales
(just starting)

FUTURE APPLICATIONS: 1) Resource inventory analysis and maintenance
2) Analysis of markets and resources to help set prices

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Land points	--	county	as needed
2) Land lines	--	county	as needed
3) Water	--	county	as needed
4) Ownership	--	tax forfeit lands	at transaction
5) Cover	--	tax forfeit lands	yearly
6) Soils	--	county	2 to 3 years
7) Roads	--	--	yearly

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Land use	contract #	county	weekly
2) Resource sale	contract #	county	weekly
3) Ownership	parcel	tax forfeit lands	as needed
4) Resource inventory	polygon ID	tax forfeit lands	yearly
5) Soil	polygon ID	county	as needed
6) Roads	road ID	county	yearly

TRANSLATION PACKAGES: 1) ARC/INFO to and from GBF/DIME
2) ARC/INFO to and from DIG standard or optional
3) ARC/INFO to and from ERDAS (GIS file)
4) PIOS to ARC/INFO
5) SVF (single variable files) to ARC/INFO
6) ARC/INFO to ETAK map base
7) ARC/INFO to GIRAS

USER: State Planning Agency (MN)
Land Management Information Center
65 Metro Square Building
St. Paul, MN 55101

SYSTEM: ARC/INFO
ESRI
Redlands, CA

CONTACT: Al Robinette (612) 296-1211

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$100,000

JUSTIFICATION: System fits needs, costs, best available GIS

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: Prime 9955II, various plotters, digitizers, printers, image display, graphics display, film recorder (note PC version is also available for about \$12,000 with 65-75 percent of mini capabilities)

CURRENT APPLICATIONS: 1) Land capability analysis: e.g., site selection, land use planning
2) Forestry: e.g., forest type inventory, forest resource assessment
3) Agriculture: e.g., erosion assessment, productivity analysis

FUTURE APPLICATIONS: 1) Network analysis for metro sewers
2) Land records/parcel mapping

OUTSIDE ACCESS: Yes, encourage use; users pay full cost

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Rivers	+/-20 meters	statewide	--
2) Section corners	+/-20 meters	statewide	--
3) Corporate boundaries	+/-20 meters	statewide	--
4) Census tracts/blocks	--	statewide	10 years
5) Land use	+/-20 meters	metro region	--
6) Lakes	+/-20 meters	50% of state	--
7) Forest stands	+/-20 meters	state lands	periodic

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Census	city/township, tract, block	statewide	10 years
2) Lake data	lake	statewide	annual

TRANSLATION PACKAGES: own or know of:

- 1) ARC/INFO to and from Integraph
- 2) ARC/INFO to and from EPPL6 (and EPPL7)
- 3) ARC/INFO to and from AutoCAD
- 4) ARC/INFO to and from DLG
- 5) ARC/INFO to and from DIME
- 6) ARC/INFO to and from ETAK
- 7) ARC/INFO to and from MOSS

USER: State Planning Agency (MN)
Land Management Information Center
65 Metro Square Bldg.
St. Paul, MN 55101

SYSTEM: EPPL6
State Planning
Agency
St. Paul, MN

CONTACT: Paul Tessar (612) 296-1211

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$500

JUSTIFICATION: Developed to fit own needs

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: Prime 9955 Mod II, various plotters, digitizers, scanner, image processor, film recorder, color printer

CURRENT APPLICATIONS: 1) Facility siting: e.g., hazardous waste, nuclear waste
2) Environmental quality/natural resources: e.g., acid rain, runoff, forest inventory, lakes inventory
3) Demographics: e.g., reapportionment, trends mapping

FUTURE APPLICATIONS: 1) Network analysis for waste management

OUTSIDE ACCESS: Yes, encourage use; users pay costs, but cost share coops are encouraged

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Soil	+/-1,500 feet	statewide	--
2) Land use	+/-100 feet	statewide	--
3) Public ownership	+/-100 feet	statewide	2 years
4) Forest cover	+/-100 feet	statewide	10 years
5) Hydrology	+/-100 feet	statewide	--
6) Transportation	+/-100 feet	statewide	5 years
7) Census subdivision	+/-100 feet	statewide	10 years
8) School districts	+/-100 feet	statewide	2 years
9) Watersheds	+/-100 feet	statewide	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Soil rating	soil unit	statewide	--
2) Lake characteristics	lake	statewide	2 years
3) Forest inventory	stand	statewide	continuous
4) Census	tract/block	statewide	10 years
5) Management details	state/county land	statewide	2 years

TRANSLATION PACKAGES: 1) EPPL6 to and from ARC/INFO
2) EPPL6 to and from ERDAS
3) EPPL6 to and from EPPL7

USER: State Planning Agency (MN)
Land Management Information Center
65 Metro Square Bldg.
St. Paul, MN 55101

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN

CONTACT: Paul Tessar (612) 296-1211

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$400

JUSTIFICATION: Developed to meet user needs

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC family with more than a dozen different printers

CURRENT APPLICATIONS: 1) Field office of local government office use of GIS

FUTURE APPLICATIONS: 1) Add vector digitizing interface

OUTSIDE ACCESS: Yes, encourage use; for sale

GRAPHIC DATA FILES: See EPPL6 list (previous page)

ATTRIBUTE FILES: See EPPL6 list (previous page)

TRANSLATION PACKAGES: 1) EPPL7 to and from EPPL6
2) EPPL7 to and from ERDAS
3) EPPL7 to and from ARC/INFO
4) EPPL7 to and from PC-ARC

USER: Strgar-Roscoe-Fausch, Inc.
One Carlson Parkway North, Suite 100
Minneapolis, MN 55447

SYSTEM: HASP
HASP
Loveland, CO

CONTACT: Glenn G. Schreiner (612) 475-0010

ASSISTANCE: Written materials, answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$50,000

JUSTIFICATION: System fits needs

PRIMARY USE: CADD/engineering

SECONDARY USE: Cartography/mapping

HARDWARE: HP 350, HP319, Compaq 386, various plotters, digitizers, geodimeter data collectors

CURRENT APPLICATIONS: 1) Municipal/highway construction plans: e.g., I394,
City of Plymouth
2) Site surveys/plats

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: No

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) Intergraph to and from HASP
2) AutoCAD to and from HASP

USER: Superior National Forest
U.S. Forest Service
Federal Bldg., P.O. Box 338
Duluth, MN 55801

SYSTEM: none
(two systems
installed soon:
AUTOCAD and C & G
Software)

CONTACT: Ken Staupe, Forest Land Surveyor (218) 720-5396 or
Wayne Hensche, Grand Marais, MN 55604 (218) 387-2699

ASSISTANCE:

SOFTWARE SPECIFICATIONS

DATA STRUCTURE:

PRICE:

JUSTIFICATION:

PRIMARY USE:

SECONDARY USE:

HARDWARE: PC-based

CURRENT APPLICATIONS: 1) Transportation inventory
2) Ownership maps of sections (see future applications)

FUTURE APPLICATIONS: 1) Looking to integrate much of national, state, county
and private data relating to Superior National
Forest and surrounding territory
2) Full GIS compatible with nationwide USFS system;
target date--1991

OUTSIDE ACCESS:

GRAPHIC DATA FILES:

ATTRIBUTE FILES:

TRANSLATION PACKAGES:

USER: Transportation (MN Dept. of)
620s Transportation Building
St. Paul, MN 55155

SYSTEM: Intergraph
Intergraph Corp.
Huntsville, AL

CONTACT: Thomas O'Keefe, Computer Aided Engineering Services
(612) 297-4031

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: Bundled hardware/software

JUSTIFICATION: System fits needs

PRIMARY USE: CADD/engineering

SECONDARY USE: 1) Cartography/mapping
2) Analytic/GIS

HARDWARE: VAX 780,785, Micro VAXII, Intergraph work stations, plotters

CURRENT APPLICATIONS: 1) Road plans: e.g., photogrammetric mapping, right-of-way mapping
2) Bridge plans
3) Cartographic mapping: e.g., county maps, municipal street series

FUTURE APPLICATIONS: 1) GIS
2) Computer-aided engineering

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Photo plans	+/-1 foot	construct. sites	--
2) Parcel maps	+/- .5 foot	construct. sites	--
3) County mapping	+/-30 feet	10 metro area counties	annual
4) Municipal street series	+/-30 feet	20% of 10 county metro area	annual
5) Road plans	+/- .01 feet	scattered sites	--
6) Bridge plans	+/- .01 feet	scattered sites	--
7) Rest area plans	--	scattered sites	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) 20 year plan mapping	road segment	district-wide	2 years
2) Survey control network	survey network	state-wide	continuous
3) Soil borings	site	project-wide	continuous
4) Hydraulics	structures, drainage basins	county	continuous
5) Accident analysis	accident	--	--

TRANSLATION PACKAGES: IGDS to and from SIF format

USER: Transportation (MN Dept. of)
720 Transportation bldg.
St. Paul, MN 55155

SYSTEM: MICROSTATIONS
Bently Inc.

CONTACT: Jim Aswegan, Computer Aided Engineering Services
(612) 296-4031

ASSISTANCE:

SOFTWARE SPECIFICATIONS

DATA STRUCTURE:

PRICE:

JUSTIFICATION:

PRIMARY USE:

SECONDARY USE:

HARDWARE: IBM PC-AT or Intergraph work station

CURRENT APPLICATIONS: 1)
2)
3)

FUTURE APPLICATIONS: 1)
2)
3)

OUTSIDE ACCESS:

GRAPHIC DATA FILES: See Intergraph

ATTRIBUTE FILES:

TRANSLATION PACKAGES:

USER: Transportation (MN Dept. of)
Transportation Building
St. Paul, MN 55155

SYSTEM: TIS (Transportation
Information System)
MnDOT
St. Paul, MN

CONTACT: Donna Karnuth, Program Management (612) 296-3152

ASSISTANCE:

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Built around AutoCAD vector/polygon system

PRICE: Development costs plus \$3,500 for AutoCAD

JUSTIFICATION: Cost, matched hardware, compatibility

PRIMARY USE: 1) Cartography/mapping
2) Analytical/GIS

SECONDARY USE: CADD/engineering

HARDWARE: Compaq 386, plotter, tape drive

CURRENT APPLICATIONS: 1) Display road related data graphically: e.g.,
accident rates are displayed by varying width bands
along alignment

FUTURE APPLICATIONS: 1) Districts generate own maps

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Road and bridge location	+/-25 meters	state-wide	varies
2) Jurisdiction boundaries	+/-25 meters	state-wide	varies

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) Accident information	accident	state-wide	varies
2) Bridge specifications	bridge	state-wide	varies

TRANSLATION PACKAGES: --

USER: ULTIMAP Corporation
2901 Metro Drive, Suite 314
Bloomington, MN 55425

SYSTEM: ULTIMAP
ULTIMAP Corp.
Bloomington, MN

CONTACT: Terry Banbury, Sales (612) 854-2382

ASSISTANCE: Written materials

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$14,995 for core, five integrated application packages
@ \$3,000-\$4,500

JUSTIFICATION: --

PRIMARY USE: --

SECONDARY USE: --

HARDWARE: Apollo 3000, 4000, 5000 series

CURRENT APPLICATIONS: 1) Automated mapping
2) Planning
3) Engineering
4) GIS applications

FUTURE APPLICATIONS: 1) Polygon processing (released March 1)

OUTSIDE ACCESS: --

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: 1) ULTIMAP to and from Intergraph
2) ULTIMAP to and from AutoCAD

USER: United Way of Minneapolis
404 S. 8th St.
Minneapolis, MN 55404

SYSTEM: Atlas * Graphics
Strategic Location
Planning
San Jose, CA

CONTACT: Alan Makis (612) 340-7420

ASSISTANCE: Written materials, answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: --

JUSTIFICATION: System fits needs, matched hardware

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: Honeywell AP (AT compatible), plotter

CURRENT APPLICATIONS: 1) Needs assessment: e.g., areas underserved with
services for battered children
2) Demographic analysis: e.g., location of low income
single parent

FUTURE APPLICATIONS: --

OUTSIDE ACCESS: Yes, encourage; users pay full cost, must have human service
component

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Five-digit zipcode	+/- .5 mile	7-county metro area	--
2) City/township	+/- .5 mile	7-county metro area	--
3) Minneapolis/St. Paul neighborhoods	+/-100 feet	central cities	--
4) Census tracts	+/- .5 mile	7-county metro area	--

ATTRIBUTE FILES:

Type	Unit Record	Coverage	Update
1) 1980 Census	Neighborhood, zip, tract, city/twp	7-county metro area	--
2) Demographic estimates and projections	zipcode area	7-county metro area	--
3) Provide data	zipcode area	7-county metro area	--
4) Battered children	city/township	7-county metro area	--
5) Battered women	zipcode area	7-county metro area	--
6) Vital statistics	tracts	7-county metro	--

TRANSLATION PACKAGES: --

USER: Water Resources Center
Mankato State University
Box 34
Mankato, MN 56001

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN

CONTACT: Henry W. Quade (507) 389-5492

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$400

JUSTIFICATION: Availability of data

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: Leading Edge Turbo AT

CURRENT APPLICATIONS: 1) Water study

FUTURE APPLICATIONS: 1) Water study in thirteen-county region: e.g.,
quality, quantity, related land use

OUTSIDE ACCESS: Yes, users pay full cost, staff busy

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Water Resources Center
Mankato State University
Box 34
Mankato, MN 56001

SYSTEM: Geosight
Sammamish Data
Bellevue, WA

CONTACT: Henry W. Quade (507) 389-5492

ASSISTANCE: Answer questions

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/polygon

PRICE: \$6,000

JUSTIFICATION: User defined map windows, ease of data additions

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartographic/mapping

HARDWARE: Leading Edge Turbo AT, plotter

CURRENT APPLICATIONS: --

FUTURE APPLICATIONS: 1) Water study in thirteen-county region: e.g.,
quality, quantity, related land use

OUTSIDE ACCESS: Yes, users pay full cost, staff busy

GRAPHIC DATA FILES: --

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Wright County Planning and Zoning
Wright County Courthouse
Buffalo, MN 55313

SYSTEM: EPPL7
State Planning
Agency
St. Paul, MN

CONTACT: Tom Salkowski (612) 682-3900

ASSISTANCE: Answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Raster/grid

PRICE: \$300

JUSTIFICATION: System fits needs, cost, matched hardware, availability of data

PRIMARY USE: Analytic/GIS

SECONDARY USE: Cartography/mapping

HARDWARE: IBM-PC AT compatible, printer

CURRENT APPLICATIONS: 1) Land use planning: e.g., mapping physical features, analysis of data
2) Mapping data: e.g., demographic data
3) Illustration: e.g., maps for reports, title pages, etc.

FUTURE APPLICATIONS: 1) Linkage to other county data
2) More accurate mapping

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

Type	Resolution	Coverage	Update
1) Important farmlands	10 acres	county-wide	--
2) Land use/cover	10 acres	county-wide	--
3) Zoning	10 acres	county-wide	--
4) Land use plan	10 acres	county-wide	--
5) Corporate limits	10 acres	county-wide	--
6) County ditches	10 acres	county-wide	--
7) Public land	10 acres	county-wide	--
8) Flood-prone areas	10 acres	county-wide	--
9) 1975 housing density	section (1 mi ²)	county-wide	--
10) 1985 housing density	section (1 mi ²)	county-wide	--
11) Building permits 1975-85	section (1 mi ²)	county-wide	--
12) Value of farm building	section (1 mi ²)	county-wide	--

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

USER: Wright-Hennepin Coop Electric Assoc.
P.O. Box 330
Maple Lake, MN 55358

SYSTEM: AutoCAD, release 9
with ADE-3
Autodesk
Sausalito, CA

CONTACT: Rod Nikula, Engineering (612) 441-5280

ASSISTANCE: Written materials, answer questions, demonstrate

SOFTWARE SPECIFICATIONS

DATA STRUCTURE: Vector/raster

PRICE: \$2,150

JUSTIFICATION: System fits needs

PRIMARY USE: Cartography/mapping

SECONDARY USE: --

HARDWARE: CMC-AT (Compaq 386 on order), digitizer, plotter

CURRENT APPLICATIONS: 1) Electric utility mapping: e.g., feeder and sub-station maps, detailed maps or service/customers

FUTURE APPLICATIONS: 1) Engineering interface
2) Inventory interface

OUTSIDE ACCESS: No

GRAPHIC DATA FILES:

<u>Type</u>	<u>Resolution</u>	<u>Coverage</u>	<u>Update</u>
1) Twp & section boundaries	--	2 counties	developing
2) Power lines	--	2 counties	developing

ATTRIBUTE FILES: --

TRANSLATION PACKAGES: --

INDEX OF USERS

	<u>Page</u>
Agralite Cooperative	
AutoCAD	1
Arrowhead Management Services Inc.	
AutoCAD	2
Barr Engineering Co.	
DIGICAD-INFOCAD	3
Blue Earth County	
Intergraph	4
Burnsville, City of	
none	5
Carver County Planning	
EPPL7	6
Soil Survey Information System	7
Center for Urban and Regional Affairs, University of Minnesota	
Atlas * Graphics	8
Cook County Assessor	
none	9
Control Data Corporation	
CDC MAP	10
Cray Research	
CSadie	11
MOVIE.BYU	12
Dakota County	
none	13
Duluth, City of	
ULTIMAP	14
Edwards and Kelsey, Inc.	
EkWYS	15
Fish and Wildlife Service, U.S.	
EPPL6	16
Geography Department, Bemidji State University	
EPPL7	17
Geography Department, University of Minnesota	
Atlas * Graphics	18
Desktop Information Display System	19
EPPL7	20
ERDAS PC	21
MapMaker	22
MapMaster	23
RANDMAP	24
Surfer	25
Geological Survey, U.S.	
ARC/INFO	26
Goodhue County Coop Electric	
AutoCAD	27
Hennepin County, Dept. of Planning	
ULTIMAP	28
Hennepin County, Dept. of Transportation	
ULTIMAP	29

	<u>Page</u>
Hennepin County Surveyor	
ULTIMAP	30
Horizons, Inc.	
AutoCAD	31
Digimap	32
Intergraph Micro II	33
Landscape Architecture Program, University of Minnesota	
EPPL7	34
LOGIS	
ULTIMAP	35
Markhurd Corporation	
AutoCAD	36
Intergraph	37
SysScan	38
ULTIMAP	39
Martinez Corporation	
KORK Digital	40
Metropolitan Council	
Atlas AMP	41
EPPL7	42
PC - ARC/INFO	43
SAS/GRAPH	44
Military Affairs, Minnesota Dept. of	
GRASS (Geographic Research Analysis and Support System)	45
Minneapolis, City of	
ULTIMAP	46
Natural Resources, Minnesota Dept. of	
ARC/INFO (Division of Forestry)	47
AutoCAD (Division of Waters)	48
EPPL6 (Office of Planning)	49
EPPL6 (Division of Waters)	50
EPPL7 (Division of Waters)	51
Mapper (State Climatology Office)	52
Prodesign (Division of Waters)	53
Natural Resources Research Institute	
EPPL7	54
ERDAS	55
MAP	56
Nicollet County	
none	57
Northern States Power Company	
AutoCAD	58
EPPL7	59
Pollution Control Agency, Minnesota	
EPPL7	60
Potlach Corporation	
PC ARC/INFO	61
Ramsey County Public Works Survey	
ULTIMAP	62

	<u>Page</u>
Remote Sensing Lab, University of Minnesota	
EPPL7	63
ERDAS-GIS	64
PC-ARC/INFO	65
SPANS	66
Rochester-Olmsted Planning and HRA	
EPPL7	67
St. Paul, City of	
AutoCAD	68
St. Louis County Land Department	
ARC/INFO	69
State Planning Agency, Minnesota	
ARC/INFO	70
EPPL6	71
EPPL7	72
Strgar-Roscoe-Fausch, Inc.	
HASP	73
Superior National Forest	
none	74
Transportation, Minnesota Dept. of	
Intergraph	75
MICROSTATIONS	76
TIS	77
ULTIMAP Corporation	
ULTIMAP	78
United Way of Minneapolis	
Atlas * Graphics	79
Water Resources Center	
EPPL7	80
Geosight	81
Wright County Planning and Zoning	
EPPL7	82
Wright-Hennepin Coop Electric Assoc.	
AutoCAD	83

INDEX OF SYSTEMS

	<u>Page</u>
Apple PIPS	
Geography Department (Bemidji State University)	17
ASPEX	
Geography Department (Bemidji State University)	17
AtlasAMP	
Metropolitan Council	41
Atlas*Graphics	
Center for Urban and Regional Affairs (University of Minnesota)	8
Geography Department (University of Minnesota)	18
United Way of Minneapolis	79
ARC/INFO	
Fish and Wildlife Service, U.S.	16
Geological Survey, U.S.	26
Natural Resources (Minnesota Dept. of--2 separate listings)	47
St. Louis County Land Department	69
State Planning Agency (Minnesota)	70
ARC/INFO PC see PC ARC/INFO	
AutoCAD	
Agralite Cooperative	1
Arrowhead Management Services, Inc.	2
Barr Engineering	3
Geological Survey, U.S.	26
Goodhue County Coop Electric	27
Horizons, Inc.	31
Markhurd Corporation	36
Martinez Corporation	40
Natural Resources (Minnesota Dept. of)	48
Northern States Power Company	58
Superior National Forest	74
St. Paul, City of	68
Wright-Hennepin Coop Electric Assoc.	83
C & G Software	
Superior National Forest	74
CDCMAP	
Control Data Corporation	10
CSadie	
Cray Research	11
Desktop Information Display System	
Geography Department (University of Minnesota)	19

	<u>Page</u>
DIGICAD-INFOCAD	
Barr Engineering Company	3
Digimap	
Horizons, Inc.	32
EKWYS	
Edwards and Kelsey, Inc.	15
EPPL6	
Fish and Wildlife Service, U.S.	16
Natural Resources (Minnesota Dept. of--2 separate listings)	50, 51
Pollution Control Agency (Minnesota)	60
State Planning Agency (Minnesota)	71
EPPL7	
Carver County Planning	6
Geography Department (Bemidji State University)	17
Geography Department (University of Minnesota)	20
Landscape Architecture (University of Minnesota)	34
Metropolitan Council	42
Natural Resources (Minnesota Dept. of--2 separate listings)	51
Natural Resources Research Institute	54
Northern States Power Company	59
Pollution Control Agency (Minnesota)	60
Remote Sensing Lab (University of Minnesota)	63
Rochester-Olmstead Planning and HRA	67
State Planning Agency (Minnesota)	72
Water Resources Center (Mankato State University)	80
Wright County Planning and Zoning	82
ERDAS	
Geography Department (University of Minnesota)	21
Natural Resources Research Institute	55
Remote Sensing Lab (University of Minnesota)	64
Geosight	
Water Resources Center (Mankato State University)	81
GRASS	
Military Affairs (Minnesota Dept. of)	45
HASP	
Strgar-Roscoe-Fausch, Inc.	73
Intergraph	
Blue Earth County	4
Markhurd Corporation	37
Transportation (Minnesota Dept. of)	75
Intergraph Micro II	
Horizons, Inc.	33

	<u>Page</u>
KORK Digital Mapping System Martinez Corporation	40
MacMap Geography Department (Bemidji State University)	17
MAP Natural Resources Research Institute	56
MapMaker Geography Department (University of Minnesota)	22
MapMaster Geography Department (University of Minnesota)	23
Mapper Natural Resources (Minnesota Dept. of)	52
MICRO MAP II Geography Department (Bemidji State University)	17
MICROSTATIONS Transportation (Minnesota Dept. of)	76
MOVIE.BYU Cray Research	12
PC ARC/INFO Metropolitan Council	43
Potlatch Corporation	61
Remote Sensing Lab (University of Minnesota)	65
Prodesign Natural Resources (Minnesota Dept. of)	53
RANDMAP Geography Department (University of Minnesota)	24
SAS GRAPH Metropolitan Council	44
Soil Survey Information System Carver County Planning	7
SPANS Remote Sensing Lab (University of Minnesota)	66
Surfer Geography Department (University of Minnesota)	25
SYMAP Geography Department (Bemidji State University)	17

	<u>Page</u>
SysScan	
Markhurd Corporation	38
TIS	
Transporation (Minnesota Dept. of)	77
ULTIMAP	
Duluth, City of	14
Hennepin County, Dept. of Planning and Development	28
Hennepin County, Dept. of Transportation	29
Hennepin County Surveyor	30
LOGIS	35
Markhurd Corporation	39
Minneapolis, City of	46
Ramsey County Public Works Survey	62
ULTIMAP Corporation	78
none (but needs assessment or vendor study completed or underway)	
Burnsville, City of	5
Cook County Assessor	9
Dakota County	13
Nicollet County	57

INDEX OF NEEDS ASSESMENTS AND VENDOR STUDIES

USERS REPORTING A NEEDS ASSESSMENT OR VENDOR SURVEY WHICH IS COMPLETED OR UNDERWAY

(Current system listed in parentheses)

	<u>Page</u>
 NEEDS ASSESSMENT	
Burnsville, City of (none)	5
Hennepin County Surveyor (ULTIMAP)	30
Natural Resources, Minnesota Dept. of (ARC/INFO)	47
Nicollet County (none)	57
Ramsey County Public Works Survey (ULTIMAP)	62
Rochester-Olmsted Planning (EPPL7)	67
Strgar-Roscoe-Fausch, Inc. (HASP)	73
 VENDOR STUDY	
Barr Engineering Company (DIGICAD-INFOCAD)	3
Blue Earth County (Intergraph)	4
Cook County Assessor (none)	9
Cray Research (CSadie)	11
Cray Research (Movie BYU)	12
Dakota County (none)	13
Fish and Wildlife Service, U.S. (EPPL6 and ARC/INFO)	16
Geography Department, Bemidji State University (EPPL7 and others)	17
Geography Department, University of Minnesota (many PC cartography programs)	18-25
Geological Survey, U.S. (ARC/INFO)	26
Markhurd (AutoCAD)	36
Markhurd (SysScan)	38
Markhurd (ULTIMAP)	39
Rochester-Olmsted Planning (EPPL7)	67
Water Resources Center (EPPL7 and Geosight)	80-81

APPENDIX

SURVEY FORM USED TO COLLECT SYSTEM DESCRIPTIONS